

**ENGLISH**

**Rainbow Runner G-Series**  
**• User Guide •**

10619-301-0110  
1998.09.04

---

# Contents

---

<b>Using this guide</b>	<b>4</b>
More information .....	4
<b>Overview</b>	<b>5</b>
Hardware supplied .....	5
Software supplied .....	5
System requirements .....	6
Technical features .....	6
Installation overview .....	6
<b>Hardware installation</b>	<b>7</b>
<b>Connection setup</b>	<b>11</b>
Quick connection setup .....	11
S-video and composite video .....	15
SCART connector information .....	16
Rainbow Runner G-Series input .....	17
<b>Software installation</b>	<b>18</b>
Rainbow Runner G-Series Installation CD-ROM .....	18
MediaStudio CD-ROM .....	19
Photo Express CD-ROM .....	19
<b>Matrox PC-VCR Remote program</b>	<b>20</b>
Input setting .....	21
Video file input .....	21
TV tuner input .....	22
Video line input .....	22
Mini remote .....	24
More features .....	25

<b>Matrox VidCap driver</b>	<b>27</b>
Video source settings .....	27
Video format settings .....	28
<b>Ulead MediaStudio software</b>	<b>29</b>
Step 1 – Getting files for clips .....	29
Step 2 – Adding clips .....	30
Step 3 – Editing clips .....	32
Step 4 – Adding effects .....	34
Step 5 – Saving your video .....	35
More information .....	36
<b>Ulead Photo Express program</b>	<b>37</b>
<b>VDOnet Internet VDOPhone program</b>	<b>38</b>
Requirements .....	38
Network setup .....	38
VDOPhone setup .....	38
Connecting with other VDOPhone users .....	39
More information .....	40
<b>Troubleshooting</b>	<b>41</b>
Video editing .....	41
Sound .....	47
<b>Display information</b>	<b>49</b>
<b>Customer support</b>	<b>51</b>
<b>Warranty</b>	<b>54</b>
<b>Index</b>	<b>56</b>

---

## Using this guide

---

This guide assumes you're familiar with basic functions like click, right-click and double-click, and that you're familiar with the basics of the operating system you're using. Also, we use the following conventions:

- **Bold** for text that appears on-screen, subheadings and labels.
- *Italics* for file names, paths, publication titles, and new terms.
- ***Bold Italics*** for emphasis.
- Keyboard keys in square brackets, with a plus sign separating keys that you press simultaneously. For example: press [Ctrl]+[Alt]+[Del] to restart your computer.
- Arrows ("→") to separate ordered directions. For example, "click **OK** → **Close** → **OK**" is the same as "click **OK**, then click **Close**, then click **OK**".
- When viewing online, **green** for cross-references and underlined green for links to Web pages. Click green text to jump to what is being referenced. (To jump to Web pages, your system first needs to have full Internet access.)

**Note:** This guide makes references to labels on external video devices. The actual labels on your video devices may not be worded exactly the same. Different manufacturers sometimes use different labels for the same type of controls and connectors. For example, the **VIDEO IN** connector on your TV may be labeled **VIDEO 1** (or **VIDEO 2**). To match labels, see the documentation for your video devices.

---

## More information

---

We provide important additional information in online documentation, including Help files, *readme* files, and Adobe Acrobat PDF (Portable Document Format) files. Use the **Acrobat Reader** program, which you can install from your "Rainbow Runner G-Series Installation" CD-ROM (*Guides\English\ar32e301*), to view or print PDF files.

This guide is available on the CD-ROM as a PDF file (*Guides\English\rrg\_eng.pdf*). The online version of this guide includes "[Software license agreement](#)", "[Customer support](#)" and "[Warranty](#)" information. For more information on the types of documentation provided, see each software section in this guide.

Also, be sure to check for any last-minute release notes at the end of this manual and in the Matrox CD-ROM *readme* file.

---

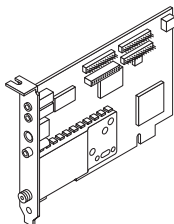
## Overview

---

Thank you for purchasing Matrox Rainbow Runner G-Series. With Rainbow Runner G-Series, you can view, record and edit video on your computer. That video can come from a video camera, VCR, videodisc player, antenna or cable TV. With a video camera and a connection to the Internet, you can video conference. With a direct connection to an antenna or cable TV, you can change channels on your computer or preview up to 30 channels simultaneously. Rainbow Runner G-Series turns your computer into a home entertainment center and digital video editing studio.

## Hardware supplied

---



**Rainbow Runner  
G-Series card**



**2 ribbon cables**



**Composite (RCA)  
video cable**



**2 audio cables**

## Software supplied

---

- **Matrox drivers** – to use the Rainbow Runner G-Series hardware
- **Matrox PC-VCR Remote** – to view and record digital video
- **Ulead MediaStudio** – to edit digital video
- **Ulead Photo Express** – to edit digital images
- **VDOnet Internet VDOPhone** (trial version) – to use your Internet-connected computer as a video phone
- **Other software** – see the CD-ROM *readme* file

## System requirements

Requirement	Minimum	Recommended
Matrox "G" series graphics card, for example*: Productiva G100, Mystique G200, Millennium G200, Millennium G200 SD, Millennium G200 SE or MGA-G200 SD	✓	✓
Pentium processor or compatible	166 MHz	P2, 233 MHz or faster
System memory (RAM)	32 MB	32 MB or more
CD-ROM for video file playback†	✓	4 × with 256 KB cache, or better
Sound card for audio capture and playback (with a Windows-compatible WAV driver)	✓	✓
Modem for video conferencing (with Internet connection)	14.4 Kbps	28.8 Kbps
Free hard disk space for video capturing	300 MB	2 GB with IDE mode4 or SCSI drive
Video equipment	Video camera (for video conferencing)	TV output support on your graphics card, and a TV and video recorder (for video viewing and recording)
Matrox Rainbow Runner must be used with Windows 95/98.		

\* Some "G" series graphics cards can't be used with Rainbow Runner G-Series. For example: Marvel G200, Marvel G200-TV, Productiva G100 MMS with a TV tuner.

† For MPEG1-encoded video files (\*.mpg).

(The data transfer rate needed for the playback of most MJPEG-encoded AVI video files is too high for most CD-ROMs.)

## Technical features

- NTSC, PAL and SECAM video input (composite and S-video connectors)
- Built-in TV tuner for TV antenna or cable TV input
- Full-resolution, hardware MJPEG (Motion-JPEG) video compression/decompression

## Installation overview

To install Rainbow Runner G-Series:

- 1 Install the Rainbow Runner G-Series card – see [“Hardware installation”](#), page 7.
- 2 Connect your video input – see [“Connection setup”](#), page 11.
- 3 Install the software – see [“Software installation”](#), page 18.

---

# Hardware installation

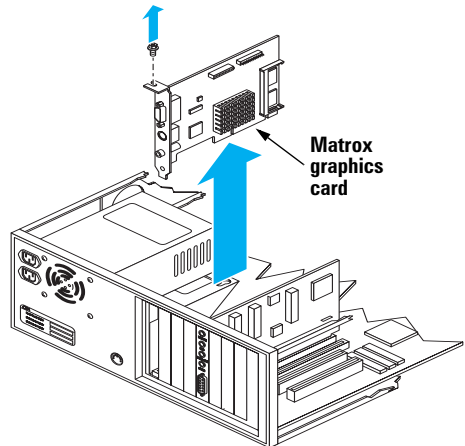
---

**WARNING:** Static electricity can severely damage electronic parts. Before touching any electronic parts, drain the static electricity from your body. You can do this by touching the metal frame of your computer. When handling a card, hold it by its edges, and avoid touching its circuitry.

This section describes how to install your Matrox Rainbow Runner G-Series card. To install, you'll need a Phillips screwdriver (star-shaped head). For information specific to your computer, like how to remove its cover, see your system manual. If your Matrox graphics card is *not* already installed in your computer, skip to [step 2](#).

## 1 Remove the Matrox graphics card from your computer\*

- a Turn off your computer.
- b Note how and where devices are connected to your computer, then disconnect them.
- c Remove your computer cover. This usually involves removing several screws.
- d Remove the screw fastening the bracket of the Matrox graphics card to your computer rear panel.
- e Remove the Matrox graphics card from your computer. Save the card's fastening screw and note which slot the card was in.



---

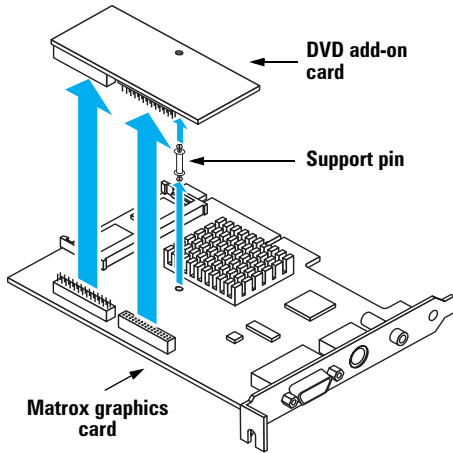
\* If you have a Matrox TV output add-on (sold separately) attached to your Matrox graphics card, you should remove the TV output add-on before you remove your graphics card.

**2 If a DVD add-on card is attached to your Matrox graphics card:**

**Move the DVD add-on to your Rainbow Runner G-Series card**

- a** *Carefully* remove the DVD add-on from your Matrox graphics card.

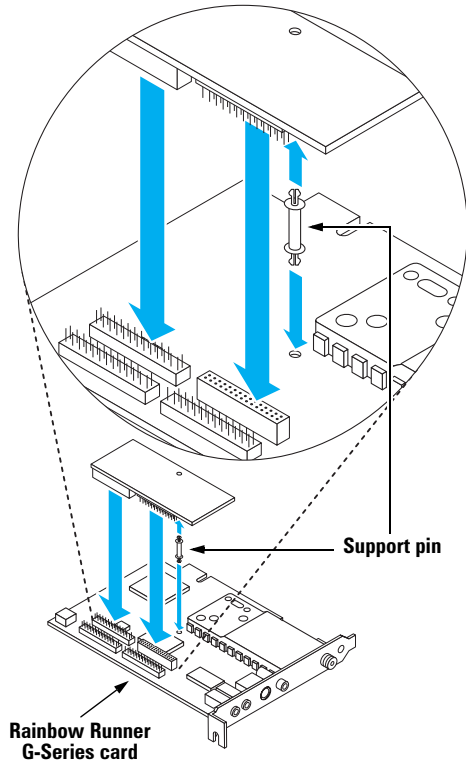
**WARNING:** If the cards are not separated *carefully*, they could be damaged.



- b** Position the DVD add-on card over the Rainbow Runner G-Series card so the connectors and the support pin line up.

**WARNING:** If the cards are not properly aligned, they could be damaged when combined.

- c** Press the two cards together slowly and evenly until the connectors are fully joined and the plastic support pin snaps into place.

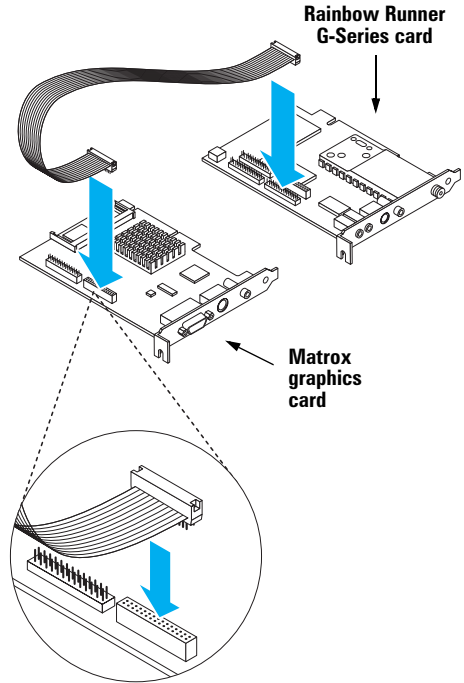




### 3 Attach the first ribbon cable

Use one of the two ribbon cables included with Rainbow Runner G-Series – the one with connector pins on one end.

- a Attach the end with the pins to the connector near the top edge of your Matrox graphics card – the connector closer to the bracket.
- b Attach the other end to the corresponding connector near the top edge of your Rainbow Runner G-Series card.

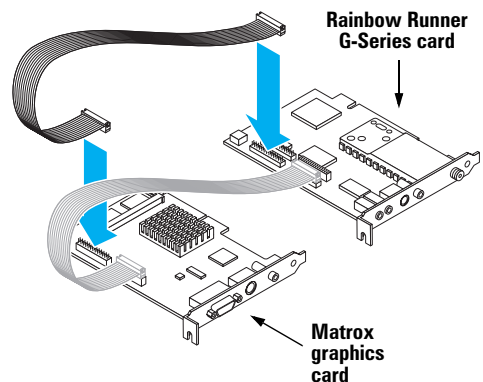


**WARNING:** Pressing together incorrectly aligned connectors can damage them. The connectors on the ends of the ribbon cables and the connectors on the Matrox cards are made so they attach to each other only one way. Before pressing connectors together, make sure all pins and holes are correctly aligned. After pins and holes are aligned, make sure connectors are firmly pressed together.

### 4 Attach the second ribbon cable

Use the second ribbon cable included with Rainbow Runner G-Series.

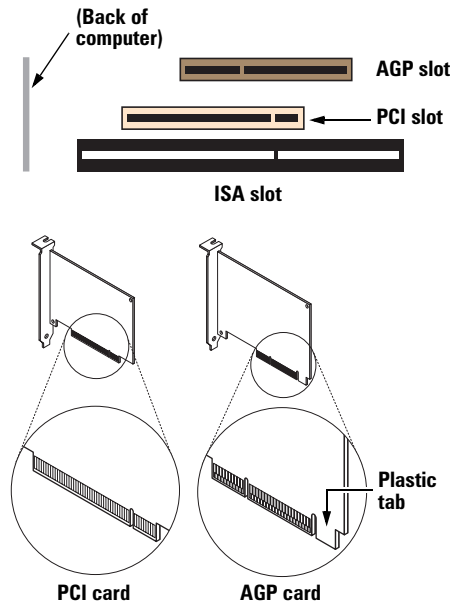
- a Attach one end to the second connector near the top edge of your Matrox graphics card.
- b Attach the other end to the second connector near the top edge of your Rainbow Runner G-Series card.



## 5 Choose a PCI slot for your Rainbow Runner G-Series card

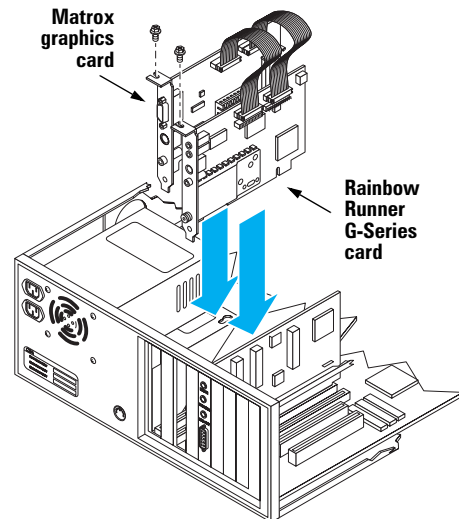
- a Most computers have different types of expansion slots. Choose a **PCI** expansion slot for your Rainbow Runner G-Series card. Your system manual should identify the location of each type of expansion slot in your computer.
- b Remove the cover for the slot you intend to use. Save the screw for the mounting bracket.

**WARNING:** Inserting your Matrox card into the wrong type of slot could damage your card, your computer, or both.



## 6 Insert your Matrox cards

- a Position your Rainbow Runner G-Series card over the PCI slot you've chosen and position your Matrox graphics card over the slot you removed it from.
- b Push the cards in firmly and evenly until they're fully seated in their slots.
- c With the fastening screws you saved, secure the brackets of your Matrox cards to the computer frame.
- d Put your computer cover back on.



Your Rainbow Runner G-Series card is now installed. **Before restarting your computer**, connect your external devices (see “[Connection setup](#)”, page 11). **After connecting your external devices**, restart your computer and install your Matrox software (see “[Software installation](#)”, page 18).

---

# Connection setup

---

After the Rainbow Runner G-Series card is installed, you need to connect your external video devices (TVs, VCRs, and so on), then install the Matrox video software. This section describes how to connect video devices to your computer.

## Quick connection setup

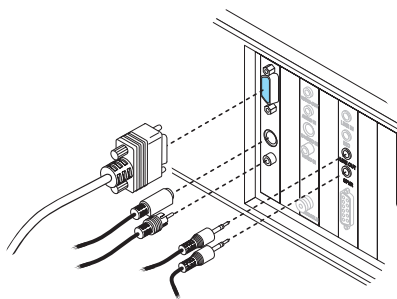
---

### 1 Reconnect devices

Reconnect any device previously connected to your computer – for example, your computer monitor. For more information, see the documentation for each device.

If your graphics card has TV output support and your card wasn't previously connected to a TV or video recorder, see your Matrox graphics card manual for instructions on how to connect TV output.

If your graphics card doesn't have TV output support, a TV output add-on is available. For more information, see the Matrox Web site ([www.matrox.com/mga](http://www.matrox.com/mga)).

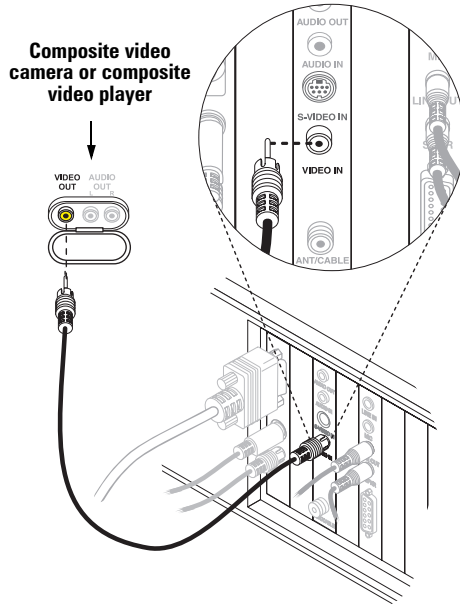


## 2 Connect video input

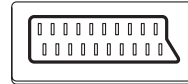
Use the composite video (RCA) cable supplied with Rainbow Runner G-Series.

- a Plug one end into **VIDEO IN** on your Rainbow Runner G-Series card.
- b Plug the other end into the **VIDEO OUT** connector (usually yellow) on your video camera or video player.\*

For more information on video input devices, see “Rainbow Runner G-Series input”, page 17.



**SCART connectors:** If your VCR or TV *only* uses a SCART audio/video connector (see picture), you may need to purchase a SCART video connector. For more information, see “SCART connector information”, page 16.



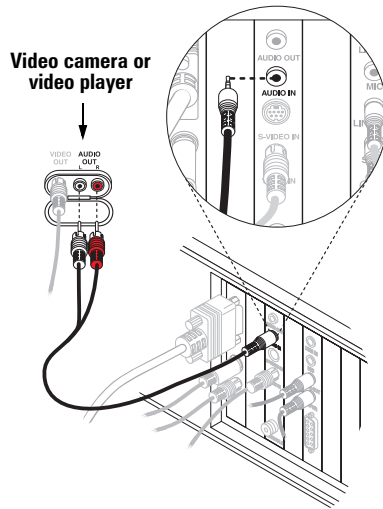
\* A video player can be any device that generates a video signal. For example, a VCR, videodisc player or DVD player.

### 3 Connect audio input

Use the long audio cable included with Rainbow Runner G-Series.

- a** Plug the stereo-jack end into **AUDIO IN** on your Rainbow Runner G-Series card.
- b** Plug the other end into left (**L**) and right (**R**) **AUDIO OUT** on the video device you connected to in [step 2](#). (On the audio cable, white is for “left” and red is for “right”. If your video device has only one audio connector, use the left audio connector on the cable.)

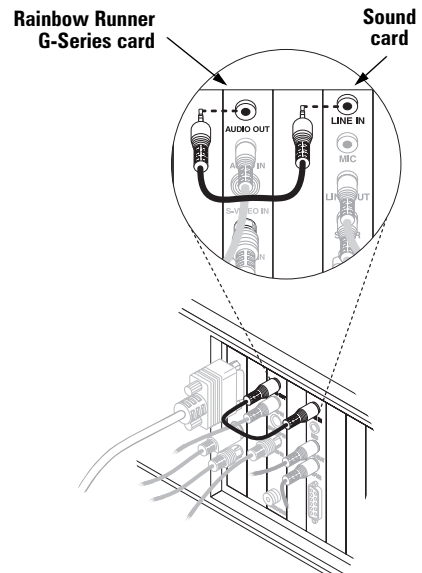
For more information on audio input types, see [“Rainbow Runner G-Series input”, page 17](#).



### 4 Connect audio output

Use the short audio cable included with Rainbow Runner G-Series.

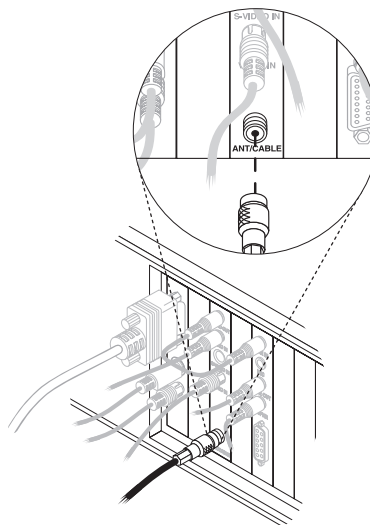
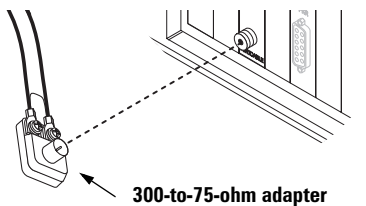
- a** Plug one end into **AUDIO OUT** on your Rainbow Runner G-Series card.
- b** Plug the other end into **LINE IN** on your sound card.



## 5 Connect your TV antenna or cable TV

Connect a TV antenna or cable TV to **ANT/CABLE** on your Rainbow Runner G-Series card.

If the cable from your antenna is flat and ends with twin leads, you need a 300-to-75-ohm adapter to connect to the Rainbow Runner G-Series card (see below). You can find this type of adapter at most electronics stores.



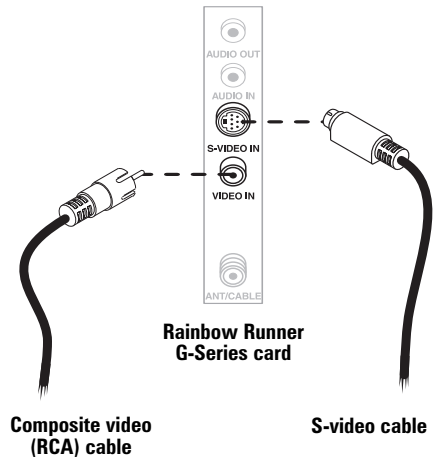
## S-video and composite video

The Rainbow Runner G-Series has a *composite video* input connector and an *S-video* input connector. Most video equipment uses composite video, but some devices (for example, S-VHS VCRs) use S-video, which is a higher-quality video signal.

If you have a video device with S-video connectors, you should use the **S-VIDEO IN** connector on your Rainbow Runner G-Series card. If your S-video device didn't come with S-video cables, this type of cable is available at most electronics stores.

You can use the Rainbow Runner G-Series S-video connector instead of – or in addition to – the composite video connector. If you use composite and S-video connectors, you can connect two video input devices to Rainbow Runner G-Series at the same time.

Both video input types may be connected at the same time, but only one video input signal at a time can be used by Rainbow Runner G-Series. You need to select either the composite video (**VIDEO IN**) or S-video (**S-VIDEO IN**) signal in the software (see page 23).



(Note: Using the Matrox composite video *and* S-video connectors at the same time is optional.)

## SCART connector information

---

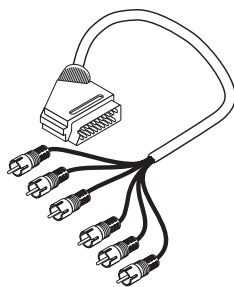
Some video devices in Europe only have SCART connectors. This type of connector includes video *and* audio, whereas composite or S-video connectors include only video.

If your TV or VCR *only* has a SCART connector, you need a SCART cable adapter to connect to Rainbow Runner G-Series. If you don't already have a SCART adapter, you should be able to purchase one from your local electronics store.

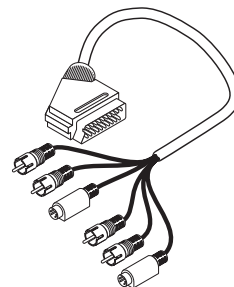
- To connect your VCR to both Matrox *input and output*\*, you need a SCART adapter with **6 connectors** – 2 audio inputs, 1 video input, 2 audio outputs, 1 video output.
- There are different SCART adapters for composite and S-video. If you're not sure which your TV or VCR supports, see its manual. If your TV or VCR uses S-video, the video connectors on your SCART adapter should be for S-video cables instead of composite (RCA) video cables.

To use a SCART adapter, connect your audio and video cables to the SCART adapter, then connect the adapter to your TV or VCR.

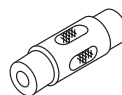
Depending on the type of SCART adapter you're using, you may need *male-to-male* adapters to attach your audio/video cables to it. For more information on connecting to a TV or VCR, see “[Quick connection setup](#)”, steps 1–4.



**Composite SCART adapter  
with 6 connectors**



**S-video SCART adapter  
with 6 connectors**



**Male-to-male adapter (RCA)**

---

\* *Some* Matrox graphics cards support TV output. For more information, see your Matrox graphics card manual.

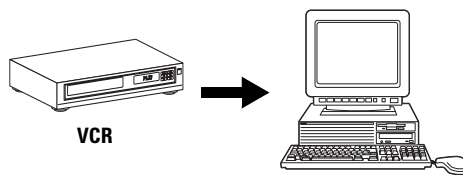


## Rainbow Runner G-Series input

**Copyright information:** Unauthorized recording or use of broadcast television programming, video tape or other copyrighted material may violate copyright laws. Matrox assumes no responsibility for the illegal duplication, use or other acts which infringe on the rights of copyright owners. Your Matrox product may not let you record from a copy-protected video source.

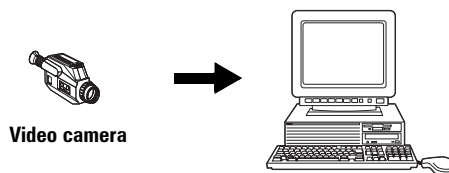
### VCR as input

If you connect the output of your VCR to your computer, you can view, record and edit the video from your VCR on your computer. To connect, see steps 2, 3 and 4 starting on page 12. For more information, see your VCR manual.



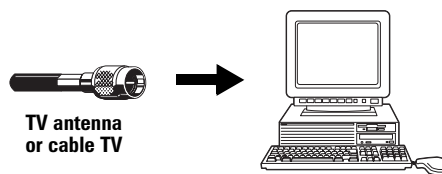
### Video camera as input

If you connect a video camera to your computer, you can view, record and edit live video on your computer. You can also video conference. To connect, see steps 2, 3 and 4 starting on page 12. For more information, see your video camera manual.



### TV antenna or cable TV as input

You can connect a TV antenna or cable TV directly to your Rainbow Runner G-Series card. With this setup, you can use software to watch TV, change channels and record TV programs like a VCR. To connect, see steps 3, 4 and 5 starting on page 13.\*



\* You can also use a VCR as a TV tuner for your computer by connecting your TV antenna or cable TV to your VCR (see your VCR manual), and connecting your VCR to your computer.

---

# Software installation

---

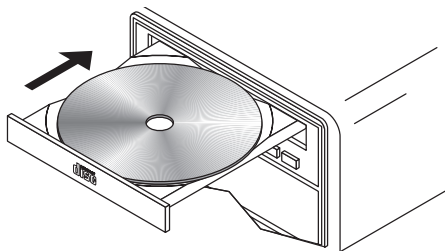
After installing the Rainbow Runner G-Series hardware and connecting it to your external video devices (TV, VCR, and so on), you need to install software. This section describes how to install the software that comes with your Rainbow Runner G-Series card.

## Rainbow Runner G-Series Installation CD-ROM

---

- 1 *After* your computer has restarted, insert the “Rainbow Runner G-Series Installation” CD-ROM in your CD-ROM drive – the setup program automatically starts.\*

Select the language you want to use, click **Next** to continue, then follow the on-screen instructions.



- 2 If the following software is not already installed on your computer, the setup program prompts you to install it:
  - Matrox PowerDesk utilities and display drivers
  - Microsoft DirectX and DirectX Media software
  - Matrox video software (PC-VCR Remote, VidCap, Quick Connect, HD Benchmark)

Follow the on-screen instructions.

- 3 The setup program prompts you to restart your computer. Leave the CD-ROM in your CD-ROM drive and click **Restart Computer** to continue. You *must* restart your computer for changes to take effect.
- 4 If this is a first-time installation, the **Matrox Quick Connect** program automatically starts. This program lets you interactively test your computer’s connections to external video devices. Follow the on-screen instructions and when you’re done, exit this program to continue.
- 5 If a hard disk in your computer hasn’t been tested before by Matrox software, the **Matrox HD Benchmark** program starts. This program tests the speed of hard disks and reports the results. The results are saved and affect the maximum settings you can select with the **Matrox PC-VCR Remote** program (see page 23). Disk speed affects the quality of video file recording and playback. After the test is finished, click **OK** to continue.
- 6 The setup program prompts you to install VDOnet Internet VDOPhone for video conferencing. Click **Yes** to install, then follow the on-screen instructions.

---

\* If Windows doesn’t start the setup program automatically, you can start it manually from the root folder of the CD-ROM.

For more information on software installed from the “Rainbow Runner G-Series Installation” CD-ROM, see the following sections:

- “Matrox PC-VCR Remote program”, page 20
- “Matrox VidCap driver”, page 27
- “VDOnet Internet VDOPhone program”, page 38

## MediaStudio CD-ROM

---

To install Ulead MediaStudio, insert the MediaStudio CD-ROM in your CD-ROM drive – its main setup program automatically starts. To install the software, follow the on-screen instructions. For more information on **MediaStudio**, see “Ulead MediaStudio software”, page 29.

**Note:** An MPEG1 video file converter is included within MediaStudio’s **Video Editor** program. For more information, see “Creating a video file”, page 35.

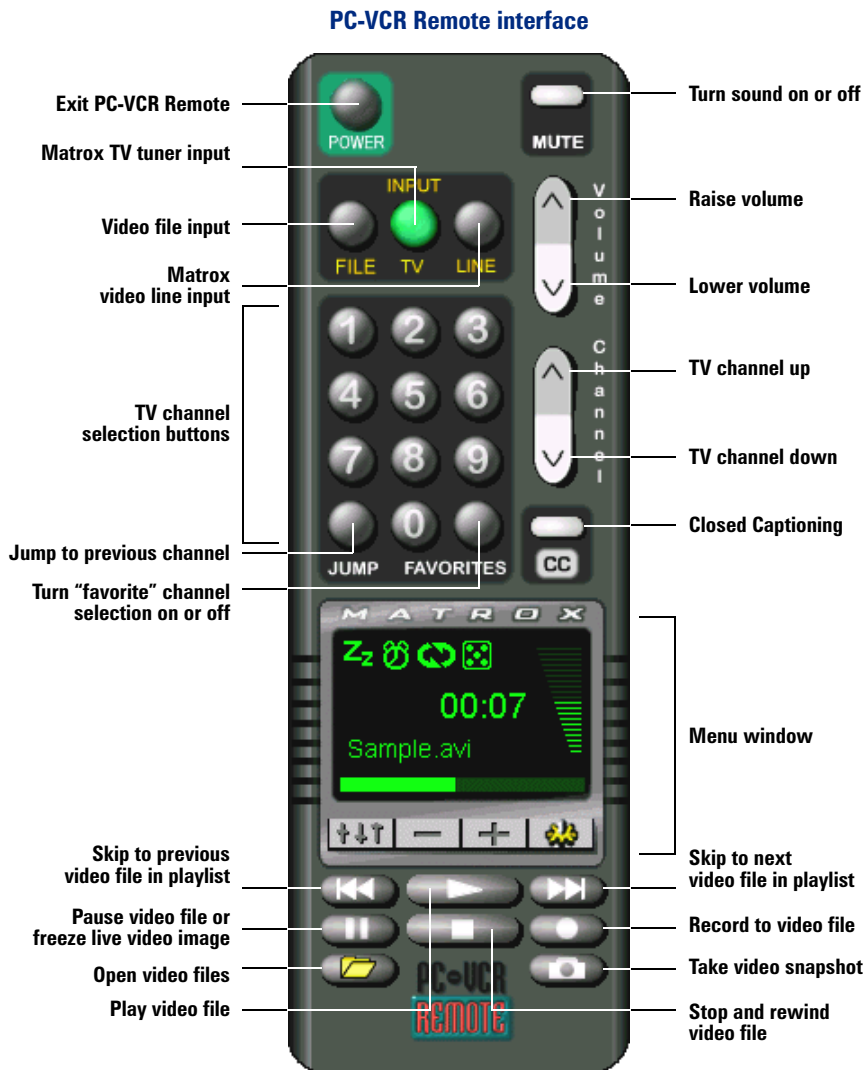
## Photo Express CD-ROM

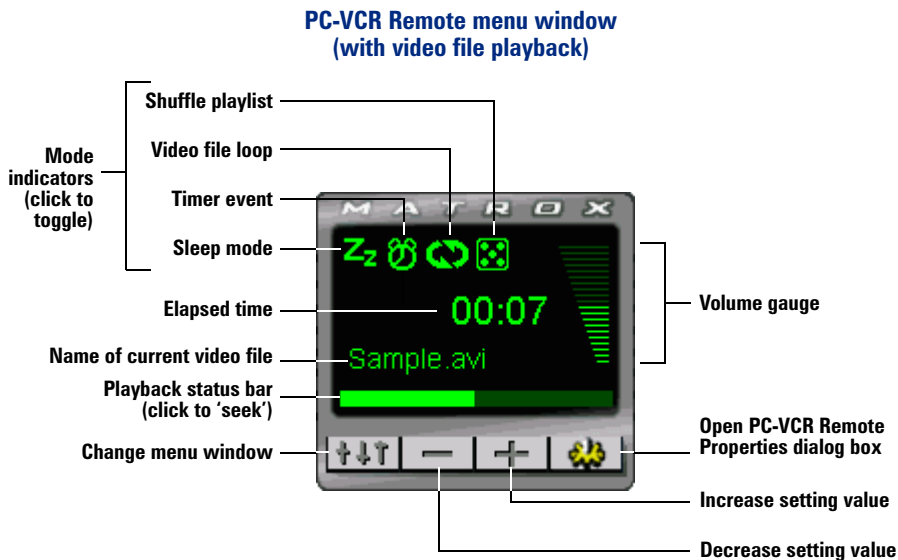
---

To install Ulead Photo Express, insert the Photo Express CD-ROM in your CD-ROM drive – its main setup program automatically starts. To install the software, follow the on-screen instructions. For more information on **Photo Express**, see “Ulead Photo Express program”, page 37.

# Matrox PC-VCR Remote program

With the Matrox PC-VCR Remote program, you can use your computer like you would a TV or VCR. To start, double-click the **PC-VCR Remote** icon (🖱️) on the Windows desktop background. The first time you start PC-VCR Remote, you see the PC-VCR Remote and its video window. Use the PC-VCR Remote to control what you see in the video window and what you record to file.





## Input setting

After you've made sure your external video devices are properly connected, click an **INPUT** button on the PC-VCR Remote to select a video source for the video window.\* This input setting affects many PC-VCR Remote controls. Select a button based on what kind of input you want to use:



- **FILE** – for video file playback.
- **TV** – to use your Matrox TV tuner.
- **LINE** – to use a device connected to your Matrox **VIDEO IN** or **S-VIDEO IN** connector. This can be a video camera or video player.

## Video file input

With PC-VCR Remote, you can play AVI, MOV, MPG, MPS and DAT video files, including the video files you record with PC-VCR Remote (AVI files).

### To view a video file

- 1 On the PC-VCR Remote, click the **FILE** button.
- 2 Click **Open Video Files** ( ), then select a video file in the resulting dialog box.
- 3 Click **Play** ( ).

\* Depending on your graphics card and display settings, there are maximum video window resolutions (sizes). We recommend you use a 16-bit color palette setting for your display. For more information, [see page 49](#).


## TV tuner input

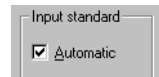
---

You can view, record and edit TV programs on your computer, like you would with a VCR. However, instead of using the controls on your VCR, you can use the PC-VCR Remote software controls.

### TV tuner software setup

To make sure PC-VCR Remote is set up to use your Matrox TV tuner:

- 1 Click the **TV** input button on the PC-VCR Remote.
- 2 Click **Properties** (  ) → **TV Setup**.
- 3 Click a **TV input** button to indicate what your Matrox TV tuner is connected to:
  - **Air** – for an antenna.
  - **Cable** – for cable TV.
- 4 Click **Advanced**, select the country you're in, then click **OK**.
- 5 Click the **Video** tab, then make sure the **Automatic** check box (in the **Input standard** group box) is enabled.
- 6 Click the **TV Setup** tab → **Auto Scan** button for PC-VCR Remote to automatically search all channels and keep in memory only the ones that can be tuned.
- 7 Adjust any other settings you want, then click **OK** to save settings and close the dialog box.



### TV channel preview

To see the TV channel preview window, right-click the PC-VCR Remote, then click the **TV Preview** menu item. By resizing this window, you can preview up to 30 channels at a time. Use the scroll bar to preview different channels. If PC-VCR Remote **FAVORITES** feature is enabled, only the channels defined as your “favorites” are visible in the preview window.

The video window and the TV channel preview window can't be viewed at the same time. To view a particular channel in the video window and close the preview window, double-click a channel in the preview window.

## Video line input


---

When the PC-VCR Remote **LINE** button is selected, the video window displays the signals coming from a device connected to your Matrox **VIDEO IN** or **S-VIDEO IN** connector. This can be a video camera or video player (see “[Rainbow Runner G-Series input](#)”, page 17).

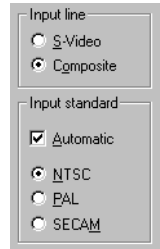
You can record from your video camera or video player to a digital video file. You can then play back this video file with PC-VCR Remote, or edit it with another program (see “[Ulead MediaStudio software](#)”, page 29).

## Before you record to a video file

- Make sure the VCR or video camera is properly connected to your Matrox line input. For more information on how to connect video devices, see “Connection setup”, page 11.
- Make sure your Windows sound card settings are correct. For more information, see “Sound”, page 47.

- Make sure your PC-VCR Remote property settings are correct. Click the **Properties** button (  ) on the PC-VCR Remote to access its setting controls:

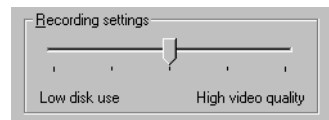
- On the **Video** property sheet, select the Matrox input line you want to use (composite or S-video) and the TV standard your VCR or video camera uses (NTSC in North America; PAL in most of Europe; or SECAM in France). For PC-VCR Remote to automatically detect the TV standard, enable the **Automatic** check box. If this check box is enabled, there may be a delay of a few seconds when you change the **INPUT** setting.
- On the **Recording** property sheet, select the path where you want to save your video file and select your video capture options for PC-VCR Remote. Move the **Recording settings** slider to increase or decrease the frame size and rate of recordings. The higher the frame size, the higher the video quality, but also the more disk space you'll need.



Look at the **Max recording time** box to see the maximum amount of time you can record to a video file. This time is based on the currently selected capture settings and the amount of free space on the disk where your video file will be recorded.

### Recording settings

The maximum frame size and rates you can select with the **Recording settings** slider are based on the currently selected capture settings (see “Capture options”) and the disk where the video file will be created. Higher-quality capture settings generally require a disk that can store information faster. PC-VCR Remote determines how fast your disk can store information by checking the results saved by the **Matrox HD Benchmark** program.



## Capture options


On the **Recording** property sheet, click the **Capture Options** button to select your video capture type:

**MJPEG** – Click this button to use hardware-based Matrox MJPEG (Motion-JPEG) video compression. Video files you create with this button selected are smaller, and as a result, your disk can store longer videos and handle more video at a time. When your disk can handle more video at a time, you get *higher-quality* video file recording and playback.


Video files you create with this button selected are still Audio Video Interleaved files (\*.avi), but only someone with a Matrox video editing card and its software drivers can use them. This is because Matrox video editing cards have special hardware to decompress MJPEG-encoded video files. You can adjust the image quality of Matrox MJPEG digital video by moving the **MJPEG quality** slider in the same dialog box.


**RGB\*** – Click one of these buttons to record uncompressed video files.

\* With PC-VCR Remote, **RGB** digital video is always in *overlay* mode. For more information on overlay mode, see “[Overlay and preview modes](#)”, page 28.

For more information on PC-VCR Remote property settings, click “” on the title bar of the dialog box, then click a dialog box item.

## Recording to a video file

- 1 Click the **LINE** button on the PC-VCR Remote. You should see video in the PC-VCR Remote video window; if not, see “[Before you record to a video file](#)”, page 23.
- 2 Click **Record** (.

If you click **Record** once, PC-VCR Remote will record to video file until you click **Stop** () or run out of disk space. If you click **Record** again, PC-VCR Remote will record for 2 minutes; click again and PC-VCR Remote will record for 4 minutes; and so on.

## Mini remote

If you don’t want to use the full-sized PC-VCR Remote, you can use the “mini remote”. The mini remote is a toolbar added to the PC-VCR Remote video window. The mini remote replaces the “full remote”. To use the mini remote, right-click the PC-VCR Remote, then click **Use Mini Remote** on the resulting pop-up menu.



Mini remote toolbar (FILE input)


Pause your mouse pointer over each mini remote button to see a pop-up tooltip identifying it. There are different buttons on the mini remote depending on the type of input selected.

To return to using the full remote again, right-click the PC-VCR Remote video window, then click **Full Remote** on the resulting pop-up menu.




## More features


---

To access more features, click the **Properties** button () on the PC-VCR Remote. You can also right-click PC-VCR Remote or its video window to quickly access some features. Here's a partial list of what else you can do with PC-VCR Remote:

**Full-screen video window** Double-click the PC-VCR Remote video window to make its video image fill your entire computer display.\* Double-click again to restore the video window to its original size.


**TV program timer** () You can program the PC-VCR Remote like you would a VCR. You can schedule weekly, daily or one-time-only TV program events which do one of three things:


- Make the PC-VCR Remote video window appear.
- Save Closed Captioning text to a file (North America only).
- Record video and audio input to a file.

**Closed Captioning** () Save Closed Captioning text to a file. If the current PC-VCR Remote video input signal supports the Closed Captioning service used in North America, click the **Closed Captioning** button to show or hide text information encoded in the video signal. (This feature does not work with the Teletext service used in Europe.)



**Keyword detection** Create lists of words that PC-VCR Remote automatically searches for in the Closed Captioning information of a video signal. Depending on how you set it up, PC-VCR Remote will make the video window appear, save Closed Captioning text to a file, or record the video and audio input to a file when it finds a keyword. (This feature does not work with the Teletext service used in Europe.)


**Sleep mode** () Have PC-VCR Remote close automatically after a certain amount of time.

**Shuffle playlist** () Shuffle the video files in the current playlist into random order. (To use this feature, enable **Use Playlist** first.)

**Loop video files** () Play video files continuously.

---

\* If your display area setting is too large, **TV** and **LINE** input and playback from Matrox MJPEG-encoded AVI video files may appear centered on a black screen when viewed "full-screen". Playback from other types of AVI files may appear blocky when viewed full-screen because of the way the video is encoded.

**Video snapshots** Click the **Video Snapshot** button () on the PC-VCR Remote to save a digital still image (“frame capture”) of the current PC-VCR Remote video window. Video snapshots can be saved as bitmap (\*.bmp) or JPEG (\*.jpg) files. You can adjust the quality, and as a result the file size of JPEG video snapshots.

**Video window cropping** If the PC-VCR Remote **LINE** or **TV** button is selected, hold down the [Shift] key, then click the video window display area. This opens a dialog box that lets you trim the edges of the video window display. This is useful for hiding information along the edges of a video image or if you just want to see part of your video window display. You can also hold down the [Ctrl] key, then drag in the video window to crop. To restore cropping settings, right-click the video window, then click the **Reset Cropping** menu item.







**Note:** In a video window with no cropping, the edges of video images may appear distorted. You normally don’t see this distortion on a TV because most TVs crop the edges of video images. Professional video equipment doesn’t produce this distortion but consumer-quality video equipment may. You can use the cropping feature of PC-VCR Remote to hide this distortion.

**Hot keys** Assign keyboard shortcuts to many PC-VCR Remote controls.

**Audio** With a sound card installed in your computer, you can adjust your computer’s sound output with the PC-VCR Remote.

**TV tuner** With the TV tuner built into your Rainbow Runner G-Series card, you can:

- Simultaneously preview up to 30 channels in a single window.
- Change channels with PC-VCR Remote controls.
- Schedule TV program timer events for different channels.
- Password-protect certain TV channels (“parental lock”).
- Auto Scan for tunable TV channels.
- Define certain channels as your favorites and quickly skip to those channels with the PC-VCR Remote channel up and down buttons.

To turn some features on or off, click the PC-VCR Remote mode indicators (, , , , ). For more information on PC-VCR Remote features and controls, see its context-sensitive Help. Click “” on the title bar of a dialog box, then click a dialog box item.

---

# Matrox VidCap driver

---

Video capture programs (*other than* Matrox PC-VCR) use the Matrox **VidCap** driver interface. For example, when you use Ulead **Photo Express** or VDOnet **VDOPhone**, you see the Matrox VidCap driver interface when you adjust video settings. This section describes VidCap source and format setting controls.

---

## Video source settings

---

**Video channel** – Click a button in this group box to select a source:

**S-video** – to capture video from a video camera or video player connected to your Matrox **S-VIDEO IN** connector.

**Composite video** – to capture video from a video camera or video player connected to your Matrox **VIDEO IN** connector.

**TV tuner** – to capture video from your Matrox TV tuner.

Depending on what's connected to the **ANT/CABLE** connector on your Rainbow Runner G-Series card, click one of these buttons:

- **Air band** – for a TV antenna.
- **Cable band** – for cable TV.

With the **Channel** box, select the channel you want to use. Click **Set** to apply your selection.

For more information, see [“Connection setup”, page 11](#).

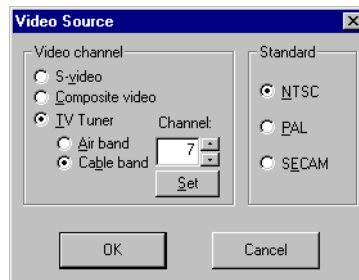
**Standard** – Click a button in this group box to identify the TV standard used by your video source:

**NTSC** – for most North American video devices.

**PAL** – for most European video devices.

**SECAM** – for video devices using the TV video standard from France.

The VidCap driver automatically assigns the correct standard used by your current video source. VidCap won't let you select a TV standard it doesn't detect.



## Video format settings

**RGB** – Click an RGB button to select an uncompressed video file format. Use an RGB format to video conference with VDOPhone and to capture still images with Photo Express. The bit values represent how many bits of information are used for color palette information; the larger the bit value, the more colors can be used, but the larger the file size.

**8-bit** – 256 shades of gray

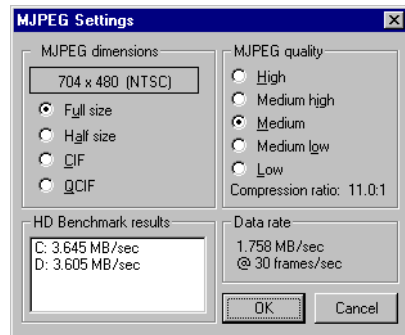
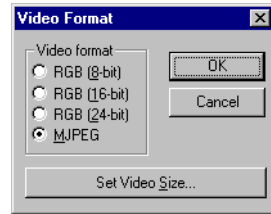
**16-bit** – 65,536 colors

**24-bit** – 16,777,216 colors

**MJPEG** – For more information, see “Capture options”, page 24.

**Set Video Size** – Click this button to adjust the video image size (resolution) settings for the currently selected format (RGB or MJPEG). For MJPEG, you can also select its quality setting.

Also, with MJPEG you can compare the speed of your hard disks (**HD Benchmark results** box) with the speed required by the selected settings (**Data rate** box). (The data rate estimate *doesn't* take audio into account.) If the hard disk you're using is too slow, video files you capture may appear jerky.



### Overlay and preview modes

The video capture program you're using may give you a choice of *overlay* or *preview* modes. If the **MJPEG** video format is selected, overlay and preview settings have no effect. If an **RGB** video format is selected, overlay and preview settings affect how video is viewed or captured:


- With overlay mode, everything **on** the video window is captured. For example, any part of a dialog box overlapping the video window appears in the captured video.
- With preview mode, you will get a lower frame rate (resulting in jerky video) and you may not be able to view or capture video if there isn't enough graphics memory available. The amount of graphics memory available depends on how much memory is on your graphics card, the size of the video window, and the resolution and color palette settings of your display.

---

# Ulead MediaStudio software

---

Ulead MediaStudio software, together with Rainbow Runner, turns your computer into a digital video editing studio. With it, you can create and edit video projects including text, images, sound, animation and video that you create yourself or record (capture) from a variety of sources.

MediaStudio is a collection of programs you can use to work with video projects. To access MediaStudio, click  **Start** → **Programs** → **Ulead MediaStudio**. The most important of the MediaStudio programs is **Video Editor**. With this program you arrange and edit your various media “clips” (text, images, sound, animations or video). With Rainbow Runner, you can capture your own video files to use as clips in Video Editor.

After you complete your video project, you can save it as a video file, then play it back or distribute it. You can also transfer that video file to video tape.

This section shows you how to use MediaStudio to create a video production by:

- **Step 1 – Getting files for clips**
- **Step 2 – Adding clips**
- **Step 3 – Editing clips**
- **Step 4 – Adding effects**
- **Step 5 – Saving your video**

For a simplified way to get started with MediaStudio Pro, you can start **Video Wizard**, then follow the on-screen instructions. Video Wizard guides you through some of the steps of creating a video project.

---

## Step 1 – Getting files for clips

---

To make your own video production, you first need media files to use as clips.

For video clips, you can capture to file from a variety of sources: VCR, video camera or videodisc player. To do this, you can use the Matrox **PC-VCR Remote** program (see “**Matrox PC-VCR Remote program**”, page 20). With the TV tuner built into your Rainbow Runner G-Series card, you can also use PC-VCR Remote to record video from cable TV or from a TV antenna connected directly to your computer. For best results, make sure all the video files you plan to use together in a video project are captured with the same settings.

Alternately, you can use the Ulead **Video Capture** program to record video files. For information on how to use the Ulead video capture program, see its online Help.

You can also get video, sound and still image files from CD-ROMs, the Internet or from friends, to name a few sources. MediaStudio provides sample video files in its *Samples* folder, which you can use to get started.

## Tips for capturing video

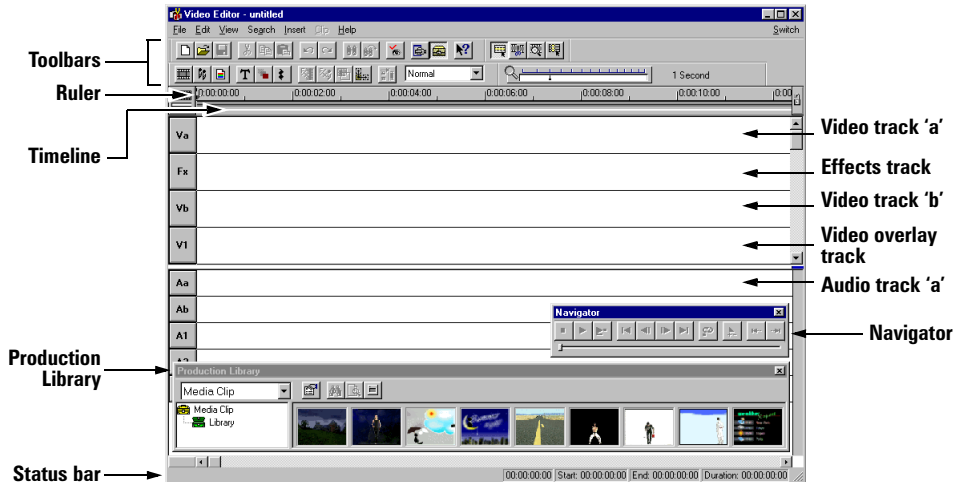
- Before capturing video, prepare your video source so that you don't capture more information than necessary. For example, if you're capturing from a video cassette, pause your VCR at a point just before where you want to start the capture. A few seconds before beginning a video capture on your computer, release the pause button on your VCR.
- Use the same capture settings for all video files you're going to use in the same project. Specifically, use the same resolution (size) for each video file within a project. Different settings could result in noticeable changes in image quality between video clips.
- If you intend to transfer your video production to video tape, use **Matrox MJPEG** video compression.

For more information on capture options, see “Before you record to a video file”, page 23, and “Matrox VidCap driver”, page 27.

## Step 2 – Adding clips

### Video Editor overview

Start **Video Editor** to open the Video Editor main window. When you see the **New** dialog box, select a project template with the same settings as video clips you plan to use, then click **OK**. Take note of the video template you select and its settings. Take a moment to familiarize yourself with the interface. Pause your mouse pointer over each control to see a pop-up tooltip identifying it and a longer description on the status bar.



The main areas of the Video Editor window are the tracks. Tracks are where you place clips. Separate tracks make it easier to organize and manipulate clips. Track lengths, as measured by the ruler, represent time and all tracks use the same timeline. Clips can be video, audio or images.

## Adding a video, audio or image clip

- 1 Click the type of file you want to insert:



**Insert Video File** – to put AVI, MOV, FLC, FLI and FLX video files in your video project. With this button, you can insert AVI video files you captured with PC-VCR Remote (see “Step 1 – Getting files for clips”).



**Insert Audio File** – to put WAV sound files or the audio portion of AVI or MOV video files in your video project.



**Insert Image File** – to put BMP, EPS, JPG, PCD, PCT, PCX, PIC, PNG, PSD, TGA, TIF or WMF picture files in your video project.

- 2 Using the resulting dialog box, select a file.
- 3 After choosing a file, click a track to place the clip.

**Placing clips** If the mouse pointer appears as a circle with a slash through it, you can't place the clip at that location. When placing a clip, black means the entire clip will fit on the current location on the track, red means the clip will be trimmed at the end to fit. After a clip is placed, you can move it within a track or to a different track by dragging it.

If a video file includes sound, clips are synchronously placed on both the video and audio tracks. You can use just the audio portion of a video file by placing its video clip on an audio track.

## Adding a title, color or silence clip

- 1 Click the type of clip you want to insert:



**Insert Title Clip** – to put text in your video project.



**Insert Color Clip** – for solid color fills (as a background, for example).




**Insert Silence Clip** – to mute part of your audio track.

- 2 Use the resulting dialog box to adjust the settings, then click **OK**.
- 3 Click a track to place the clip (see “Placing clips”).

## Step 3 – Editing clips

---

First, click the **Clip Selection** () button on the toolbar. Note that editing clips in Video Editor does *not* affect the original source files, only the current video project. Here are some ways you can work with clips:


- To move a clip within a track or to a different track, drag it.
- Arrange your clips so that the end time of one clip overlaps or immediately follows the start time of another – otherwise, there are blank areas in your video production.
- To preview or edit a clip, double-click it.
- To remove a clip from a track, click it, then press [Delete].
- To trim a clip, move your mouse pointer over a clip's left or right edge, then drag horizontally.
- For context-sensitive information, right-click a clip.
- For a context-sensitive menu, click a clip to select it, then right-click it.


### Previewing your work



You can preview your video project at any time. Video project previews give you a quick approximation of what your final video project will look like.

**Frame previews** To see one frame from your project, click the ruler. To see several frames at a time, click and drag on the ruler. The mouse pointer turns into a star (✱) when it's in the correct place over the ruler to do this. You can also move the slider on the **Navigator** window.



**Motion previews** To see how your video project will play in real-time, click **View → Preview**. This creates a preview video file and then opens a video playback window. You can also click **Preview** () on the **Navigator** window.

To see a motion preview of just part of your video project, select a time frame by dragging along the top part of the timeline. The mouse pointer turns into a film strip () when it's over the top part of the timeline. To clear a selected time frame, right-click the top part of the timeline.

**Dialog box previews** Some dialog boxes have their own previews so you can see an approximation of how the currently selected dialog box settings will appear. To play the preview, click **Play** (). For the preview to be closer to what the selected settings will look like, click **Actual Image** () .




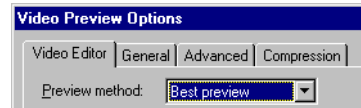
## Preview settings – Using the cutlist feature

Before you can view your video project, Video Editor has to process it. The *cutlist* feature reduces the need for Video Editor to recreate a complete video file after every edit. Video clips and effects are processed once and only changes are processed thereafter. Using cutlist saves disk space and time.

Preview and video file settings determine whether the cutlist feature is in effect. Some preview settings are determined by the video template you selected when you started your project. If you selected a **Matrox MJPEG** video template, your settings are correct.

To check your preview settings:

- 1 Click **Preview Options** (  ).
- 2 Click the **Video Editor** tab. Make sure **Preview method** → **Best preview** is selected.
- 3 Click the **General** tab. Make sure the **Frame size** matches that of your video clips (see “Tip 2”). (The frame size must be one of the resolutions listed under “**Matrox MJPEG resolutions**”, page 49.)
- 4 Click the **Compression** tab. Make sure **Compression** → **Matrox MJPEG** is selected.
- 5 Click **OK**.



**Tip 1:** With cutlist, you can avoid creating a video file by recording your video project directly to a VCR from Video Editor. For more information, see “**Transferring a video file to video tape**”, page 36.

**Tip 2:** If you want to save time and maintain video quality when you *create* a video, make sure *all* preview settings are the same as the video files in your project. Specifically, video files should be Matrox MJPEG-encoded and have the same resolution (frame size). You should also make sure the frame rate and audio settings match. For your audio to stay synchronized with your video, enable the **Interleave audio and video** check box on the **Advanced** property sheet.

## Step 4 – Adding effects

---

Video Editor special effects fall into these categories:

- **Transition effects** – Applied *between* video clips; for example, fades or wipes.
- **Video filters** – Applied *on* video clips; for example, blur or whirlpool effects.
- **Audio filters** – Applied *on* sound clips; for example, echoes or amplification.
- **Overlays** – To make clips appear “on top of” other clips. The underlying clip shows through the transparent parts of the overlay clip. For example, to make titles appear over your video clips.
- **Moving paths** – To move clips within the video frame. For example, to make title clips scroll across your frame, or to zoom in on a video clip.

### Adding a transition effect




- 1 Make sure the end time of a clip on the **Va** or **Vb** track overlaps the start time of a clip on the other track (**Vb** or **Va**). The amount they overlap will be the length of time of the transition effect.
- 2 Double-click the **Fx** track to open the **Production Library → Transition Effect** window.
- 3 Drag the effect you want over the **Fx** track, then click where the **Va** and **Vb** clips vertically overlap.
- 4 Adjust the settings in the resulting dialog box, then click **OK**;
  - If the **Va** clip starts before the **Vb** clip, select the **From Va to Vb** option button.
  - If the **Vb** clip starts before the **Va** clip, select the **From Vb to Va** option button.

For more information, click **Help** in the dialog box.




**Overlapping clips with a transition effect**

### Adding filters or overlays

- 1 Click the clip you want to apply an effect to.
- 2 Click the type of effect you want to apply:
  -  **Video Filters**
  -  **Audio Filters**
  -  **Overlay Options** (tracks **V1**, **V2**...)
- 3 Adjust the settings in the resulting dialog box, then click **OK**.  
For more information, click **Help** in the dialog box.

## Adding moving paths



- 1 Click **Moving Path** ().
- 2 From the **Production Library** → **Moving Path** window, drag the effect you want over the tracks, then click a video clip.
- 3 Adjust the settings in the resulting dialog box, then click **OK**.  
For more information, click **Help** in the dialog box.

## Step 5 – Saving your video

---

After you complete your video project, you can create a video file from it, which you can play back or distribute. You can also transfer that video file to video tape.

### Creating a video project

To save your work, click **Save** () – this creates a Digital Video Project (DVP). If saving your work for the first time, you're prompted for a file name. A DVP saves your work without modifying or making copies of your source files and without making a video file of your whole project. You can open a saved DVP by clicking **Open** ().

### Creating a video file

To save your video project as a video file which can be viewed with other software:

- 1 Click **File** → **Create** → **Video File**.
- 2 Make sure “**Microsoft AVI File (\*.avi)**” is selected in the **Save as type** box, then type a file name.

**Note:** If you want to distribute your video file on disk or through the Internet, you can select “**MPEG1 Files (\*.mpg)**”. This uses the MPEG1 converter built into Video Editor.

- 3 Click the **Options** button to adjust your file creation options.

For better image quality, use the same settings used to capture each video file in your project. Specifically, make sure the frame size (**General** tab) and compression type (**Compression** tab) are the same. If you use the **Matrox MJPEG** compression type, make sure a supported resolution is selected (see “**Matrox MJPEG resolutions**”, page 49).

**Note:** Some default file creation settings are determined by the video template you selected when you started your project. As a result, you may not need to change some settings.

For more information, click **Help** in the dialog box. Click **OK** to close this dialog box.

- 4 Click **OK** to begin file creation.

Depending on the options selected, the size of your video project, and the speed of your computer system, creating a video file may take a **long** time. Also, video files can be very large – make sure you have enough disk space available before creating a video file.

## Transferring a video file to video tape

If your Matrox graphics card supports TV output, you can transfer video files to video tape. To do so:

- 1 Connect the output from your graphics card to the input of your VCR. For more information, see your Matrox graphics card manual.
- 2 Prepare your VCR (turn it on, set up a video cassette).
- 3 Start playing the video file at the same time you start recording on your VCR. For more information on video file playback, see “To view a video file”, page 21.

If the video file is **not** encoded with Matrox MJPEG, enable TV output (see your Matrox graphics card manual), and play the file full-screen (see “Full-screen video window”, page 25).

**Tip:** If your video project was created using the cutlist feature (see “Preview settings – Using the cutlist feature”, page 33), you can play it back directly from Video Editor. Simply click **View** → **Preview**.


- 4 Stop the recording on your VCR when the video file is finished playing.

## More information

---

To learn more about MediaStudio, see the extensive online documentation. To access online Help, use the **Help** menu. For context-sensitive Help on a control in a main program window, move your mouse pointer over a control, then press [F1]. Also, most dialog boxes have a **Help** button.

To access online tutorials:

- 1 Insert the MediaStudio CD-ROM in your CD-ROM drive.
- 2 Click  → **Programs** → **Ulead MediaStudio** → **Tutorial**.

For more documentation, see the *English\Manual\Ms5ve.pdf* file on the MediaStudio CD-ROM. This is the online version of the printed manual that comes with the retail version of MediaStudio. Use the **Acrobat Reader** program to read this file.

---

# Ulead Photo Express program

---

With Photo Express, you can easily turn your digital photos into cards, calendars, posters, screen savers, slide shows and more. You can use photos from any source, including scanner, digital or video camera, VCR, file copy, or another program. With a sound card, you can even add audio to your photo projects.

When you start Photo Express, the first thing you see is its distinctive, easy-to-use interface. Pause your mouse pointer over an item to see a pop-up tooltip identifying it.



To see how easy it is to create projects using predefined templates, try clicking **Project**. Then when you're ready to create a project from scratch, click **Photo**.

Each command panel item has an associated toolbar. When you click a new item on the command panel, the toolbar changes.

For more information on how to use Photo Express, see the online Help. There are interactive tutorials and a Screenbook which you can access through the Photo Express CD-ROM (the path to the Screenbook is *Manual\English\pe2.pdf*).

---

# VDOnet Internet VDOPhone program

---

With VDOPhone and your Matrox video editing card, you can use your computer as a video phone. You can send and receive live video, high-quality sound, and text over the Internet.

## Requirements

---

**To send and receive any information:**

- Internet connection – through a network, or a 14.4 Kbps (or faster) modem

**To send sound:**

- Microphone or video camera
- Sound card and supporting drivers

**To receive sound:**

- Earphones or speakers
- Sound card and supporting drivers

**To send and receive sound at the same time:**

- Sound card and drivers that support full-duplex (two-way) information transfer

**To send video:**

- Video camera to send live video
- VCR to send taped video or TV signals


## Network setup

---

Before starting VDOPhone, you need an Internet connection. If you have full Internet access (you can send and receive e-mail and browse the World Wide Web), you can begin the VDOPhone setup. If you don't have full Internet access, contact your local Internet service provider or network administrator. See also "[More information](#)", page 40.

## VDOPhone setup

---

To start the VDOPhone program, double-click the **VDOPhone** icon () on the Windows desktop background. The first time you start VDOPhone, it asks if you want to start the setup wizard. If you click **Yes**, this program guides you through some of the setup options for VDOPhone. For more information, see the online Help.



## VDOPhone setup for Rainbow Runner G-Series

**1** Click **Tools** → **Options** → **Video**.

**2** Click the **Source** button to select the video source you want to send out.

Typically, you would select **Composite video** or **S-video**, and connect a video camera to the appropriate Matrox input line. This setup lets you send out live video of yourself. However, your video source could also be a video player or your Matrox TV tuner. For more information, see “Rainbow Runner G-Series input”, page 17.

For more information on the **Video Source** dialog box, see “Video source settings”, page 27.

**3** Click the **Format** button to select the type of video you send out.

**a** Click **RGB (8-bit)** for black and white output, or **RGB (16-bit)** or **RGB (24-bit)** for color output. Do *not* use Matrox MJPEG compression with VDOPhone.

**b** Click the **Set Video Size** button to select the size of the video image you send out.

**QCIF** is recommended for most Internet connections. In general, the larger the image size, the slower the frame rate.

**c** Click **OK** → **OK** to confirm your selections.

For more information, see “Video format settings”, page 28.

**4** Select **Self View** through the drop-down menu to open a window where you can see yourself as the person you’re connecting with will see you. Now you’re ready to connect with another VDOPhone user.

## Connecting with other VDOPhone users

Before you begin, the person you’re calling needs to be ready to receive your call with their copy of the VDOPhone program.

**1** Click the **Call** button in the main window of VDOPhone.


**2** In the resulting dialog box, type the e-mail, IP, or host address of the person you want to call.

**3** Click the **Dial** button.

For two-way video communication, both parties must have properly installed video capture cards **and** must be sending video. If you don't get two-way sound with your connection, see "Sound", page 47.

If you have full Internet access, click **Go** → "Who's online?" to see a list of VDOPhone users currently on the Internet.

If other users can't connect to you using your e-mail address, they should try using your IP address. To see your own IP address (and later communicate it to other users), run the *winipcfg* program:

- 1 Click  **Start** → **Run**.
- 2 Type *winipcfg* in the **Run** text box, then click **OK**.
- 3 In the resulting dialog box, take note of your **IP Address**, then click **OK** to close the dialog box.

## More information

---

For online Help for VDOPhone, click  **Start** → **Programs** → **VDOPhone** → **VDOPhone Help**. See also **ReadMe** and **VDOPhone Manual** in the **VDOPhone** folder. For frequently asked questions and troubleshooting information, see VDOPhone's Web site at [www.clubvdo.net](http://www.clubvdo.net).



---


# Troubleshooting

---

## Video editing

---

The following troubleshooting items address problems related to video editing.

For a list of notes, problems and limitations, click  **Start** → **Programs** → **Matrox Video Tools** → **Read Me**.

---

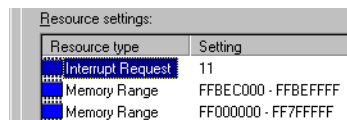
### Problem     **Can't use Rainbow Runner G-Series**

---

**Cause** Your computer may have not given an interrupt request (IRQ) to your Matrox graphics card or may have given one used by another device in your computer. This may be because your computer's "Plug-and-Play" feature is turned off.

To check the display adapter's IRQ:

- 1** Right-click the **My Computer** icon on the Windows desktop background, then click **Properties** → **Device Manager**.
- 2** Click the plus sign to the left of the **Display adapters**. An "X" through an icon means the hardware has been disabled. A circled exclamation point through the icon means the hardware has a problem.
- 3** Double-click the name of your Matrox display adapter to open a properties dialog box. The type of problem is displayed in the **General** tab → **Device Status** area.  
Check also the **Resource** tab → **Resource Settings** list for an **Interrupt Request**.




Resource settings:	
Resource type	Setting
Interrupt Request	11
Memory Range	FFBEC000 - FFBEFFFF
Memory Range	FF000000 - FF7FFFFF

**Solution** Change settings in your computer's CMOS setup utility.

If your computer has the options of enabling Plug-and-Play detection, or assigning an IRQ to a VGA adapter, make sure they're enabled. If your computer doesn't have these options, you may be able to manually assign an IRQ to your graphics card using the CMOS setup utility.

For more information on your computer's CMOS setup utility, see your system manual or contact your system manufacturer.

**Solution** **PCI graphics cards only:** You may have to manually assign an IRQ to your Matrox card with the *irqset* program in the *C:\Program Files\Matrox MGA PowerDesk* folder. For instructions on how to use *irqset*, click  → **Programs → Matrox PowerDesk → Readme.**

**Cause** Matrox hardware may not be properly installed.

**Solution** Make sure the Matrox hardware is properly installed. Specifically, make sure your Matrox graphics and Rainbow Runner G-Series cards are firmly in place. For more information, see “[Hardware installation](#)”, page 7.

---


## **Problem**    **Can’t use a video program** **(video capture, playback, editing or conferencing programs)**

---

**Cause** Another program may be using your Matrox video editing hardware. Only one program at a time can use Matrox video editing hardware.

**Solution** Close any other program that may use video editing hardware, then restart the program you’re using.

**Cause** Files may be missing or corrupted.

**Solution** Uninstall then reinstall Matrox video software. To uninstall, click  → **Settings → Control Panel → Add/Remove Programs** (double-click) → **Matrox Video Tools → Add/Remove → Yes**. To reinstall, insert the “Rainbow Runner G-Series Installation” CD-ROM in your CD-ROM drive – the setup program automatically starts.\*

**Solution** Uninstall then reinstall the program you’re having problems with. For more information, see its documentation.

---

## **Problem**    **Can’t record video from a video player**

---

**Cause** The video source may be copy protected. Your Matrox product doesn’t let you make copies of copy-protected video. (Some video sources let you make a copy of a video, but you may not be able to make a copy of that copy.)

**Solution** To get copies of a copy-protected video, contact the vendor of the video.

---

\* If Windows doesn’t start the setup program automatically, you can start it manually from the root folder of the CD-ROM.


---

**Problem      No picture in PC-VCR Remote video window**

---


**Cause**      One or more of your cable connections may be loose or incorrect.

**Solution**      Make sure all your computer connections are firmly plugged in.

**Solution**      Make sure connections are correct (see “[Connection setup](#)”, page 11). To test your connection setup, click  **Start** → **Programs** → **Matrox Video Tools** → **Matrox Quick Connect**.

**Solution**      Make sure the PC-VCR Remote input settings are correct (see “[Matrox PC-VCR Remote program](#)”, page 20).

**Cause**      PC-VCR Remote video tuning settings may be set too low.

**Solution**      Reset the video tuning settings to default values: On the PC-VCR Remote, click **Properties** () → **Video** → **Default Tuning** → **OK**.

---

**Problem      Can't create Matrox MJPEG video files  
(with video editing, video capture or 2D/3D animation programs)**

---

**Cause**      An unsupported video file resolution (size) may be selected.

**Solution**      In the video file creation settings of the program you're using, make sure an MJPEG resolution supported by Rainbow Runner is selected (see “[Matrox MJPEG resolutions](#)”, page 49).


For information on how to select the video file creation resolution, see the documentation of the program you're using. If you're using Ulead MediaStudio, see “[Creating a video file](#)”, page 35.

---


**Problem      Video file playback is jerky (skipping frames)**

---

**Cause**      Your hard disk may be too slow.

**Solution**      Try recapturing and playing back video files after defragmenting your hard disk. Click  **Start** → **Programs** → **Accessories** → **System Tools** → **Disk Defragmenter**.

If this program isn't installed:


- 1 Click  **Start** → **Settings** → **Control Panel**.
- 2 Double-click **Add/Remove Programs**.
- 3 Click **Windows Setup**.
- 4 Double-click **Disk Tools**.

- 5 Enable the **Disk Defragmenter** check box.
- 6 Click **OK** → **OK**. (You may be prompted to insert the Windows 95/98 CD-ROM in your CD-ROM drive.)

**Solution** If your hard disk supports DMA transfers, enable this feature, then try recapturing and playing back video files. To enable DMA for a hard disk:

- 1 Right-click the **My Computer** icon on your Windows desktop background, then click **Properties** → **Device Manager**.
- 2 Double-click the **Disk drives** list item to expand it, then double-click the name of the hard disk you're using.
- 3 Click **Settings**, then enable the **DMA** check box.
- 4 Click **OK** → **OK** → **Yes** to restart your computer and for changes to take effect.

**Note:** Not all hard disks support DMA well. For more information, see the documentation that came with your hard disk.


**Solution** If possible, try recapturing and playing back video files with a faster disk. To test and compare disk speeds, click  → **Programs** → **Matrox Video Tools** → **Matrox HD Benchmark**.

**Tip:** If your computer has more than one hard disk, you may get better results if you play back or capture video files with a disk *other than* the one where the Windows swap file is stored. (The Windows swap file is usually stored on drive “C:”.) In Ulead **Video Editor**, to change the disk where temporary video files are played back from, click **File** → **Preferences**, then type a new path in the **Temporary folder** box.

**Solution** If possible, recapture the video file using settings that require less disk use. For more information, see “[Capture options](#)”, page 24.

**Cause** If you're using the PC-VCR program for video file playback, tooltips may be interfering with its video window display.

**Solution** For PC-VCR Remote, disable tooltips.

- 1 On the PC-VCR Remote, click **Properties** () → **General**.
- 2 Clear the **Use tooltips** check box.
- 3 Click **OK** to apply changes and close the dialog box.

**Solution** For other programs, avoid pausing your mouse pointer over controls.

**Cause** Too many programs may be running (using up computer resources).

**Solution** Close other programs, including memory resident programs like **System Agent**.

**Cause** The video file you're playing may not be encoded with Matrox MJPEG. Playback of video files *not* encoded with Matrox MJPEG *isn't* accelerated by Matrox video editing hardware.

**Solution** Capture your video files with Matrox MJPEG. For more information, see “[Capture options](#)”, page 24.

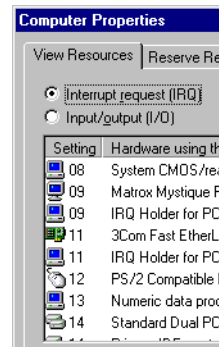
**Solution** If you created your video file with Ulead **Video Editor**, you can recreate it as a Matrox MJPEG or MPEG1 video file. For more information, see “[Creating a video file](#)”, page 35.

**Cause** If the problem is specific to Matrox MJPEG video files, Microsoft DirectVideo may be enabled. Matrox MJPEG uses DirectShow, *not* DirectVideo.

**Solution** Disable DirectVideo. With the **Notepad** program, open the *system.ini* file in your Windows folder and disable the “**VIDS.DRAW=dvideo.dll**” line in the “[**drivers32**]” section. Disable it by placing a semicolon at the beginning of the line. Save your changes, close the file, then restart your computer.


**Cause** Your Matrox graphics card may be sharing an IRQ (interrupt request) with another PCI card in your computer (for example, a network card). To see if your graphics card is sharing an IRQ:

- 1 Right-click the **My Computer** icon on your Windows desktop background, then click **Properties** → **Device Manager** → **Properties**.
- 2 Look in the list box to see if your Matrox graphics card is assigned the same IRQ number as another PCI card in your computer.



**Solution** Try moving the PCI card to another PCI slot in your computer. For more information, see the documentation for this card or see your system manual.

**Solution** **PCI graphics cards only:** Try moving your Matrox graphics card to another PCI slot in your computer.

**Solution** **PCI graphics cards only:** Use the *irqset* program to manually assign a different IRQ number to your Matrox graphics card. For instructions on how to use *irqset*, click  **Start** → **Programs** → **Matrox PowerDesk** → **Readme**.

## Problem      **Poor video capture quality**

---

**Cause**      The settings a video file was created with may not be optimal.

**Solution**      If possible, recreate the video file with more optimal settings. If you're using PC-VCR Remote, see [“Before you record to a video file”](#), page 23. If you're using Ulead Video Editor, see [“Creating a video file”](#), page 35.

**Cause**      There may be too many video devices between your video source and destination, or one or more of the video devices may be degrading the quality of the video signal. Demodulators, long cables, cable extensions and improper connections can all affect video signal quality.

**Solution**      If your video equipment supports it, use S-video connections. For more information, see [“S-video and composite video”](#), page 15.

**Solution**      Try changing one or more video devices.


**Solution**      If possible, try using fewer connections. For example, don't use cable extensions.

## Problem      **Mouse pointer flickers or disappears when it's over a video window**

---

**Cause**      You may be using a customized mouse pointer; Windows draws customized mouse pointers in a way that may cause them to flicker or disappear while they're over a video window.

**Solution**      Use default Windows mouse pointers.

- 1      Click  **Start** → **Settings** → **Control Panel**.
- 2      Double-click the **Mouse** icon, then click the **Pointers** tab.
- 3      In the **Scheme** box, select (or reselect) **“(None)”**, then click **OK**.

## Problem      **PC-VCR Remote reports that it doesn't detect the TV tuner or there's no TV in the video window when 'TV' input is selected**

---

**Cause**      The video signal coming from your antenna or cable TV may have problems. To test it, temporarily connect it directly to a TV. (If it works okay with your TV, it should work for your Matrox TV tuner.)

**Solution**      Make sure your antenna or cable TV connection to your TV tuner is okay. See [“Connect your TV antenna or cable TV”](#), page 14.

**Solution**      If you're using an antenna, try adjusting it, checking all the connections to it, or using a different antenna.

**Solution** If you're using cable TV, contact your cable company.

**Cause** Software settings may be incorrect.

**Solution** See “TV tuner software setup”, page 22.

## Sound

---

The following troubleshooting items address problems related to sound cards.

---

<b>Problem</b>	<b>Sound doesn't record, video files play back with no sound, or sound output is distorted or too loud</b>
----------------	--

---

**Cause** If the sound problem is with a particular device (for example, TV or speaker), the volume control on the device itself may need adjusting.



**Solution** Adjust the volume control on the device itself.

**Cause** Audio cables may be loose or incorrectly wired.


**Solution** Make sure your sound card cables are properly connected (see steps 3 and 4 starting on page 13).

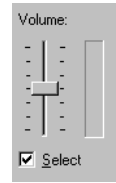
**Cause** Your sound card's Windows software settings may be incorrect. Specifically, input or output may be disabled, or volume levels may be too low or too high.

**Solution** Make sure your sound card's Windows software settings are correct:

- 1 Double-click the speaker icon () on the Windows taskbar.  
If you *don't* see the speaker icon:
  - a Click  → **Settings** → **Control Panel**.
  - b Double-click the **Multimedia** icon.
  - c Enable the “**Show volume control on the taskbar**” check box.
  - d Click **OK**.
  - e Double-click the speaker icon on the taskbar.
- 2 Click **Options** → **Properties**.
- 3 Click the **Recording** button, enable all check boxes in the list box, then click **OK**.

- 4 For the **Line-In** and/or **Microphone** controls, make sure the **Volume** slider levels are okay (if you're not sure, try half level), and the **Select** check boxes are enabled.

**Note:** To access the recording settings of your sound card with **Matrox PC-VCR Remote**, click **Properties** (  ) → **Recording** → **Audio Levels**.



- 5 Click **Options** → **Properties**.
- 6 Click the **Playback** button, enable all check boxes in the list box, then click **OK**.
- 7 For the **Master**, **Line** and/or **Wave** controls, make sure the **Volume** sliders are at one-quarter to one-half levels (if you're not sure, try half level), and the **Mute** check boxes are cleared.
- 8 Close the dialog box.

**Cause** The problem may be specific to the sound card you have.

**Solution** For more information, see your sound card manual.



# Display information

## General display information

- For information on Matrox MJPEG, see “Capture options”, page 24.
- “PAL” is the TV standard for the UK and other parts of Europe. PAL resolutions are the same as SECAM (standard for France).
- “NTSC” is the TV standard for North America.

## Maximum video window resolutions for Matrox MJPEG

There are maximum video window sizes (resolutions) for viewing Matrox MJPEG video files *and* live video (**TV** or **LINE** input). The following tables list the maximum sizes (measured in pixels) based on your graphics card, and the color palette and resolution settings of your display. (These resolutions are supported using a vertical refresh rate of 85 Hz or lower.)

### G100 graphics card

b/p*	640 × 480	800 × 600	1024 × 768	1152 × 864	1280 × 1024	1600 × 1200
16	640 × 480	800 × 600	1024 × 768	668 × 570 <sup>PAL</sup> 668 × 474 <sup>NTSC</sup>	668 × 570 <sup>PAL</sup> 668 × 474 <sup>NTSC</sup>	668 × 570 <sup>PAL</sup> 668 × 474 <sup>NTSC</sup>

\* With G100 graphics cards, the viewing of MJPEG video files or live video is supported only with a 16-bit color palette.

### G200 graphics card

b/p*	640 × 480	800 × 600	1024 × 768	1152 × 864	1280 × 1024	1600 × 1200
16	640 × 480	800 × 600	1024 × 768	1152 × 864	1280 × 1024	1600 × 1200
32	640 × 480	800 × 600	1024 × 768	668 × 570 <sup>PAL</sup> 668 × 474 <sup>NTSC</sup>	668 × 570 <sup>PAL</sup> 668 × 474 <sup>NTSC</sup>	668 × 570 <sup>PAL</sup> 668 × 474 <sup>NTSC</sup>

\* With G200 graphics cards, the viewing of MJPEG video files or live video is supported only with a 16- or 32-bit color palette.

## Matrox MJPEG resolutions

The Matrox Rainbow Runner G-Series card can capture Matrox MJPEG video at the following resolutions:

Resolution	NTSC	PAL/SECAM
Full	704 × 480	704 × 576
1/2	352 × 480	352 × 576
1/4	352 × 240	352 × 288
1/16	176 × 120	176 × 144

## Disk space for captured video

The disk space required to store digital video files depends on the frame size (resolution), frame rate, and compression ratio they're captured with. The following table shows the estimated disk space (MB / min) required with different capture settings (with no audio):

Resolution	Frame rate	Compression ratio	MB / min
1/16	1/2	3.4:1	11
1/16	Full	3.4:1	21
1/4	Full	6.9:1	42
1/2	Full	6.9:1	84
Full	Full	13.4:1	86
Full	Full	8.0:1	144

## Supported sound quality settings (video file recording)

Setting	Bits per sample	Stereo or Mono	Sample rate	MB / min
CD-quality	16	Stereo	44.100 kHz	10.3
TV-quality	16	Stereo	22.050 kHz	5.2
Low-quality	8	Mono	11.025 kHz	0.6

---

# Customer support

---

## Matrox Web and FTP sites

---

Matrox is on the Internet with a World Wide Web (WWW) and File Transfer Protocol (FTP) site. Our Web site has product literature, press releases, technical material, a sales office list, trade show information, and other relevant material. Our FTP site contains current drivers for Matrox products. You can download drivers using the Internet FTP site, in addition to our BBS. You can access our FTP server independently, or from the Matrox Web site.

Our address for Matrox Graphics Inc. is:

WWW;      [www.matrox.com/mga](http://www.matrox.com/mga)

FTP;        [ftp.matrox.com/pub/mga/](ftp://ftp.matrox.com/pub/mga/)

Send questions or comments regarding the site to:

e-mail;     [webmaster@matrox.com](mailto:webmaster@matrox.com)

## If you have a problem

---

If you have a problem, we recommend that you follow the procedure below for the quickest results.

- 1 Contact your dealer** – This is usually the quickest and most effective method of technical assistance. Your dealer is local and may be familiar with your complete system. In the case of hardware warranty assistance, the product must be returned to the dealer, who will return it to Matrox.
- 2 CompuServe** – If you have a modem and an account on CompuServe, you can get technical assistance and driver updates directly from Matrox by typing *GO MATROX* at the “!” prompt.
- 3 Matrox BBS** – You can download driver updates (which may eliminate a particular bug), utilities, and other information from our 24-hour Bulletin Board Service (BBS). The phone number is **514-685-6008**. The communication parameters are 8 data bits, 1 stop bit, and no parity. You’ll be prompted to enter your first and last name and a password. If you don’t have an account, it’s created when you enter your name for the first time. See also “Matrox Web and FTP sites”.
- 4 MATFAX instant fax** – Call our dial-up Matrox fax service at **514-685-0174**. Using a touch-tone phone, you can have faxes sent to you automatically 24 hours a day. Available documents include common installation problems, available drivers and updates, and product data sheets.

**5 Direct Matrox Technical Assistance** – If you still can't resolve a problem, you can get direct technical assistance four ways:

- Call Technical Support (Canada) at **514-685-0270**. For residents of Quebec only, call **514-822-6330**.
- Send a FAX to **514-822-6363**, Att: Graphics Technical Assistance.
- Send e-mail to [graphics.techsupport@matrox.com](mailto:graphics.techsupport@matrox.com).
- Write a letter to Graphics Customer Support at our Corporate Headquarters. The address is: **Matrox Graphics Inc., 1055 St. Regis Blvd., Dorval, QC, Canada, H9P 2T4**.

## Information we need

Please give a complete description of the problem, and include:


- Matrox card serial number, model number, revision number, BIOS number, driver type and version, and memory address at which the Matrox card is installed.
- Computer brand name, system BIOS manufacturer and version number or date, bus type, model, processor speed, and amount of memory.
- Monitor brand and model name.
- Operating system and version – if you're using a memory manager, its brand and version. Also, list any memory-resident programs in use.
- If you're using a network, its brand and version.
- Brand and model of any other cards and devices installed on your system.

## Program Specific Problems

If a problem appears with a specific program, please give us the following information:

- Display settings (color palette, display resolution, and so on) applied when the problem occurs.
- Program name and version. Name any add-on packages you're using.
- If possible, take note of the file and segment address that caused the problem.
- Detailed steps known to cause the bug, so we can reproduce it.

### Where to get information

- For display information, click  **Start** → **Programs** → **Matrox PowerDesk** → **Matrox Display Properties** → **Information**.
- For system information, right-click the **My Computer** icon on your Windows desktop background, then click **Properties**.

## Free CompuServe introductory membership offer

---

As a Matrox customer, you are entitled to a free Introductory Membership to CompuServe including:

- free access to CompuServe's Basic Services for one month
- \$15 introductory usage credit to explore the Matrox section on the Graphics B Vendor Forum and CompuServe's other Extended and Premium service offerings
- a personal User ID Number and Password
- a complimentary subscription to CompuServe's monthly magazine, *CompuServe Magazine*

### To receive your free CompuServe introductory membership

- Call toll-free **1-800-524-3388** and ask for **Representative 229**.
  - In the United Kingdom, call **0800 289 378**.
  - In Germany, call **0130 37 32**.
  - In the rest of Europe, call **44 117 976 0681**.
  - Outside of the U.S., Canada, and Europe, call **614-529-1349**.

Contact Matrox on CompuServe to receive answers to questions you may have about our graphics accelerators and video products. You can receive:

- assistance on technical questions
- information on the latest products and upgrades
- tips on using Matrox products

Through CompuServe, you can directly contact Matrox technical representatives or other Matrox users. You can also take advantage of the many services CompuServe offers.

---

# Warranty

---

## A. Limited Warranty Statement

---

1. Matrox Graphics Inc. ("Matrox") warrants to the end-user customer, who provides adequate proof of purchase that Matrox hardware products purchased from Matrox authorized dealers will be free from defects in materials and workmanship for a period of three (3) years from the date of purchase. This warranty applies only to the original end-user purchaser and is non-transferable. Conditions and limitations of Matrox's warranty are stated below.
2. Matrox's limited warranty covers only those defects which arise as a result of normal use of the hardware and does not apply to any:
  - a. improper or inadequate maintenance;
  - b. incompatibilities due to the user's hardware or software applications with or in which the Matrox product interfaces;
  - c. product of a special or custom-made nature;
  - d. unauthorized modification or misuse;
  - e. improper installation, misapplication or negligence;
  - f. operation outside the product's environmental specifications;
  - g. improper site preparation or maintenance;
  - h. software;
  - i. other causes that do not relate to a product defect;
  - j. defects or damage suffered as a result of force majeure (including theft);
  - k. defects or damage suffered as a result of normal wear and tear; and/or
  - l. stolen goods.
3. If Matrox receives, during the applicable warranty period, notice of a defect in a warranted hardware product and the defective Matrox product in question, Matrox shall at its sole option, either repair or replace the product, and shall return the repaired product or a replacement product within a reasonable delay. The replacement product may not be new, provided that it has functionality at least equal to that of the product being replaced.
4. This warranty is valid in any country where Matrox hardware products are distributed by Matrox or its authorized dealers.
5. This Limited Warranty Statement gives the customer specific legal rights. The customer may also have other rights which vary from state to state in the United States, from province to province in Canada, and from country to country elsewhere in the world.

## B. Limitations of Warranty

---

1. NEITHER MATROX NOR ANY OF ITS THIRD PARTY SUPPLIERS MAKES ANY OTHER WARRANTY OF ANY KIND, WHETHER EXPRESSED OR IMPLIED, WITH RESPECT TO MATROX PRODUCTS. MATROX SPECIFICALLY DISCLAIMS (and the customer, by accepting the Matrox product, specifically accepts such disclaimer and waives) ALL OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR OR INTENDED PURPOSE OR USE AND THE WARRANTY AGAINST LATENT DEFECTS, WITH RESPECT TO THE HARDWARE AND/OR SOFTWARE.
2. To the extent that this Limited Warranty Statement is inconsistent with the law of the locality where the customer purchases the Matrox product, this Limited Warranty Statement shall be deemed modified to be consistent with such local law. Under such local law, certain limitations of this Limited Warranty Statement may not apply to the consumer.
3. To the extent allowed by local law, the remedies provided in this Limited Warranty Statement are the customer's sole and exclusive remedies.

## **C. Limitations of Liability**

---

1. EXCEPT FOR THE OBLIGATIONS SPECIFICALLY SET FORTH IN THE LIMITED WARRANTY STATEMENT, IN NO EVENT SHALL MATROX BE LIABLE FOR:
  - a. any direct, indirect, special, incidental, consequential, foreseeable or unforeseeable, or punitive damages, whether based on contract, tort, delict or any other legal theory and whether advised of the possibility of such damages; and/or
  - b. damages arising from the loss of use, data, production revenue and/or profit of in connection with the Matrox product or any business interruption.
2. Without prejudice to the foregoing, any liability of Matrox for any breach of warranty shall be limited to the amount paid by the customer for the defective hardware in question.
3. To the extent allowed by local law, Matrox's entire liability and the customer's exclusive remedy shall be the repair or replacement of any defective product during the warranty period. Matrox does not offer any other warranty with respect to Matrox hardware or software or any other hardware or software.
4. Customer shall be responsible for all applicable taxes, duties and customs fees on any replacement unit, as well as all transport, insurance, storage and other charges incurred on all returned products.

## **D. Obtaining Service**

---

1. Verify that your Matrox product was installed and configured according to the information in its accompanying documentation.
2. Read the "Troubleshooting" information included with the Matrox product to see if you can solve the problem yourself.
3. If you are still experiencing difficulties, please contact your dealer where you purchased your Matrox product.
4. If you must return a Matrox product, leave the configuration as it was when you were using it, and leave all identification stickers on the product. Pack the product in its original box and return to your Matrox dealer where the product was purchased, together with your proof of purchase. Your Matrox dealer will return the product for you. Alternatively, if this first option is unavailable to you, you may contact the Matrox Technical Support group who will issue an Return Merchandise Authorization (RMA) number, upon receipt of adequate proof of purchase, and inform you of shipping instructions. DO NOT RETURN THE PRODUCT TO MATROX WITHOUT MATROX'S RMA NUMBER AND EXPRESS AUTHORIZATION.

## **E. General**

---

This limited warranty shall be governed by the laws of the Province of Quebec, Canada and the federal laws of Canada applicable therein and the courts of the Province of Quebec shall have exclusive jurisdiction to hear and decide any dispute instituted by the customer in connection with this limited warranty; the customer waives, by accepting the product, its rights to institute proceedings in connection with this warranty against Matrox in any jurisdiction other than Quebec.

---

# Index

---

## A

address, Matrox 52  
Adobe Acrobat 4, 36  
audio  
    adjusting 26  
    input 13  
    output 13  
    problem 47–48  
    quality 33, 50  
AVI  
    MJPEG compression 24  
    video file 31, 35

## B

BBS, Matrox 51

## C

capture settings 23, 24, 30  
CD-ROM  
    MediaStudio 19, 36  
    Photo Express 19, 37  
    Rainbow Runner G-Series 4, 18, 19  
    requirements 6  
Closed Captioning 25  
color palette 28, 49  
composite video  
    connection setup 15  
    connector 5, 12  
    SCART 16  
    software setup 23, 27  
CompuServe 51, 53  
connection setup 11–16  
customer support 51–53, 54  
cutlist 33

## D

disk  
    space 6, 23, 24, 50  
    speed 18, 24, 43

display information 49  
document conventions 4

## E

editing clips 32  
e-mail, Matrox 52

## F

FAX, Matrox 51  
frame capture 20, 26  
FTP, Matrox 51

## G

graphics cards 6

## H

hardware  
    acceleration 24, 45  
    information 5–6  
    installation 7–10  
    requirements 6  
HD Benchmark 18, 23, 28, 44

## I

input  
    audio 13  
    TV tuner 14, 17  
    VCR 12, 17  
    video camera 17  
installation  
    hardware 7–10  
    overview 6  
    software 18–19  
IRQ (interrupt request)  
    settings 41

## L

labels (on video devices) 4

## M

MediaStudio 29–36  
memory requirements 6  
Millennium G200 49  
MJPEG  
    capture options 24, 28, 30  
    compression 6, 33, 35  
    resolutions 49  
    video format setting 28  
    video quality 24  
MPEG1 19, 35  
Mystique G200 49

## N

NTSC 6, 23, 27, 49

## O

online documentation  
    Matrox Video Tools 41  
    MediaStudio 36  
    PC-VCR Remote 26  
    Photo Express 37  
    Rainbow Runner G-Series 4  
    VDOPhone 40  
output  
    audio 13  
    TV 11  
    video 11  
overlay mode 28

## P

PAL 6, 23, 27, 49  
PC-VCR Remote 20–26  
PDF 4, 36  
Photo Express 37  
Plug-and-Play 41  
preview mode 28  
Productiva G100 49



## Q

quality  
    audio 33, 50  
    MJPEG 24  
    video files 23, 33, 35, 46  
Quick Connect 18, 43

## R

RCA connectors 5, 12, 15, 16  
requirements, system 6  
resolution  
    MJPEG 49  
    video 30  
RGB 24, 28, 39

## S

SCART 12, 16  
SECAM 6, 23, 27, 49  
software installation 18–19  
sound  
    quality 33, 50  
    troubleshooting 47–48  
S-video  
    connection setup 15, 46  
    SCART 16  
    software setup 23, 27

## T

technical assistance 52  
Teletext 25  
troubleshooting 41–46  
TV output 11  
TV tuner 6  
    connection setup 14  
    input 17  
    software setup 22, 26, 27

## V

VCR 12, 17  
VDOPhone 38–40  
VidCap driver 27–28

video  
    input 12, 17, 22, 24  
    output 11  
video camera 12, 17, 22  
Video Capture 29  
video editing  
    troubleshooting 41–47  
Video Editor 30–36  
video files  
    capturing 24, 29  
    creating 23, 35  
    file types 21  
    MJPEG 24  
    playback 21, 32  
    quality 23, 33, 35, 46  
    settings 23–24, 30, 45  
video snapshot 20, 26

## W

warning 7, 8, 9, 10  
warranty 54  
Web, Matrox 51

---

# Software license agreement

---

**Single User Products** This Matrox software (the "Software") is copyrighted by Matrox Graphics Inc. All rights are reserved. The purchaser is granted a license to use the software only, subject to the following restrictions and limitations.

1. The license is for the original purchaser only, and is not transferable without written permission of Matrox.
2. The original purchaser may use the Software on a single computer owned or leased by the original purchaser. You may not use the Software on more than a single machine, even if you own or lease more than one machine, without written consent of Matrox.
3. The original purchaser may make back-up copies of the Software for his or her own use only, subject to the use limitations of this license.
4. The original purchaser may not engage in, nor permit third parties to engage in, any of the following:
  - Providing or disclosing the Software to third parties.
  - Providing use of the Software in a computer service business, network, time-sharing, multiple CPU or multi-user arrangement to users who are not individually licensed by Matrox.
  - Making alterations or copies of any kind in the Software (except as specifically permitted above).
  - Attempting to unassemble, de-compile or reverse engineer the Software in any way.
  - Granting sublicenses, leases, or other rights in the Software to others.
  - Making copies, or verbal or media translations, of the user's guide.
  - Making telecommunication data transmissions of the Software.

Matrox reserves the right to terminate this license if there is a violation of its term or default by the Original Purchaser. Upon termination, for any reason, all copies of the Software must be immediately returned to Matrox, and the Original Purchaser shall be liable to Matrox for any and all damages suffered as a result of the violation or default.

**Limited warranty** Matrox warrants to you, for a period of ninety (90) days normal use from your date of purchase, that:

1. The CD/disks on which the software is furnished and the documentation are not defective.
2. The Software is properly recorded upon the CD/disks included.
3. The documentation is substantially complete and contains all the information Matrox deems necessary to use the software.
4. The Software functions substantially as described in the documentation.

Matrox's entire liability and your exclusive remedy shall be the replacement of any CD/Disks or documentation not meeting these warranties, which is returned to Matrox or an authorized dealer, together with a copy of your paid receipt. The above is the only warranty of any kind, either express or implied, including, but not limited to the implied warranties of merchantability and fitness for a particular use that is made by Matrox on this Licensed Software. In no event shall Matrox be liable to you or to any third party for consequential, special, indirect or incidental damages which you may incur as a result of using the licensed software, including, but not limited to, loss of data, or information of any kind which you may experience.

# Thank you for choosing Matrox

---

Please register online ([www.matrox.com/register](http://www.matrox.com/register)) to be eligible for customer support, new product announcements, and information on special offers and upcoming events.

**matrox**

Copyright © 1998 Matrox Graphics Inc. • (English) All rights reserved. • (Français) Tous droits réservés.  
 • (Deutsch) Alle Rechte vorbehalten. • (Italiano) Tutti i diritti riservati. • (Español) Reservados todos los derechos.

## **Trademarks • Marques déposées • Warenzeichen • Marchi registrati • Marcas registradas**

---

Matrox Electronic Systems Ltd. ....	Matrox®, Matrox Mystique®
Matrox Graphics Inc. ....	CenterWINDOW™, DeskNav™, Desktop Navigator™, DynaView™, Matrox m3D™, Matrox HD Benchmark™, Matrox Impression™, Matrox Marvel™, Matrox Media XL™, Matrox Millennium™, Matrox PowerDesk™, Matrox Quick Connect™, MaxVIEW™, MGA™, MGA-G100™, MGA-G200™, Productiva™, QuickDesk™, Rainbow Runner™, MGA PowerDesk™, ModeSWITCH™, PanEND™, PanHOME™, PanLOCK™, PC-VCR Remote™, PixelTOUCH™, PowerDoc™, QCDP™, QuickAccess™, ResSwitch™
Adobe Systems Inc. ....	Acrobat®, Adobe®
Apple Computer, Inc. ....	Apple®, QuickTime®
Avid Technology, Inc. ....	Avid®, Avid Cinema™, Cecil B. DeMovie™
CompuServe Inc. ....	CompuServe®
Dolby Laboratories, Inc. ....	Dolby®, Dolby Digital®
Eastman Kodak Company ....	Kodak Precision™
Intel Corporation ....	Intel®, Indeo®, MMX™, Pentium®
International Business Machines Corporation ....	IBM®, OS/2®, PowerPC®, VGA®
Microsoft Corporation ....	ActiveMovie™, ActiveX™, Direct3D®, DirectDraw®, DirectShow™, DirectVideo™, DirectX™, Microsoft®, MS-DOS®, Windows®, Windows 95™, Windows 98™, Windows for Workgroups™, Windows NT™
Radius Inc. ....	Cinepak®
Silicon Graphics, Inc. ....	OpenGL®
Ulead Systems, Inc. ....	Ulead®, MediaStudio™, Photo Express™
U.S. Environmental Protection Agency ....	Energy Star™
VDOnet Corporation Limited. ....	VDOnet®, VDOPhone™
Zoran Corporation. ....	Zoran®, SoftDVD®

• (English) All other nationally and internationally recognized trademarks and tradenames are hereby acknowledged. • (Français) Toutes les autres marques et tous les autres noms déposés reconnus nationalement ou internationalement sont également reconnus par les présentes. • (Deutsch) Alle sonstigen national und international bekannten Warenzeichen und Produktnamen werden hiermit anerkannt. • (Italiano) Eventuali altri nomi di prodotto menzionati in questo manuale sono dei proprietari di rispettivi produttori. • (Español) Por medio del presente se reconocen todas las demás marcas y nombres comerciales reconocidos a nivel nacional e internacional.

## **(English) Disclaimer**

---

THE INFORMATION IN THIS GUIDE IS SUBJECT TO CHANGE AT ANY TIME AND WITHOUT NOTICE.

Matrox Graphics Inc. reserves the right to make changes in specifications at any time and without notice. The information provided by this document is believed to be accurate and reliable. However, no responsibility is assumed by Matrox Graphics Inc. for its use; nor for any infringements of patents or other rights of third parties resulting from its use. No license is granted under any patents or patent rights of Matrox Graphics Inc.

## **(Français) Responsabilité**

---

LES INFORMATIONS CONTENUES DANS CE MANUEL PEUVENT ÊTRE MODIFIÉES À TOUT MOMENT SANS PRÉAVIS.

Matrox Graphics Inc. se réserve le droit de modifier les spécifications à tout moment sans préavis. Les informations contenues dans ce manuel sont reconnues comme étant précises et fiables. Cependant, Matrox Graphics Inc. n'assume aucune responsabilité concernant leur utilisation, ni leur contrefaçon ou les autres droits des tiers résultant de leur utilisation. Aucune licence n'est accordée sur aucun brevet ou droit d'exploiter un brevet de Matrox Graphics Inc.

## **(Deutsch) Haftungsablehnungserklärung**

---

DIE IN DIESEM HANDBUCH ENTHALTENEN ANGABEN UND DATEN KÖNNEN OHNE VORHERIGE ANKÜNDIGUNG GEÄNDERT WERDEN.

Die Matrox Graphics Inc. behält sich das Recht vor, jederzeit und ohne Ankündigung technische Daten zu ändern. Es wird keine Garantie für die Richtigkeit des Inhalts dieses Handbuchs übernommen. Weiterhin übernimmt die Matrox Graphics Inc. keinerlei Verantwortung für die Benutzung dieses Handbuchs, weder für Verstöße gegen Patentrechte noch für andere Rechte Dritter, die aus seinem Gebrauch resultieren mögen. Es werden keinerlei Lizenzrechte gewährt für sämtliche Patente oder Patentrechte der Matrox Graphics Inc.

## **(Italiano) Discrezionalità**

---

LE INFORMAZIONI CONTENUTE NEL PRESENTE DOCUMENTO SONO SOGGETTE A MODIFICHE SENZA PREAVVISO.

Matrox Graphics Inc. si riserva il diritto di apportare variazioni di qualunque tipo alle specifiche tecniche in qualunque momento e senza alcun preavviso. Le informazioni contenute in questa documentazione sono ritenute corrette e attendibili. In ogni caso, non è imputabile a Matrox Graphics Inc. nessuna responsabilità per il loro utilizzo, come nessuna violazione a brevetti o diritti di altri produttori derivante dal loro utilizzo.

## **(Español) Renuncia**

---

LA INFORMACION QUE CONTIENE EL PRESENTE MANUAL ESTA SUJETA A CAMBIOS SIN PREVIO AVISO EN CUALQUIER MOMENTO.

Matrox Graphics Inc. se reserva el derecho de realizar modificaciones en cualquier momento y sin previo aviso. La información facilitada en este documento se considera que es exacta y fiable. Sin embargo, Matrox Graphics Inc. no asume ninguna responsabilidad por su uso; ni por cualquier infracción de patentes u otros derechos de terceras partes derivados de su uso. No se concede ninguna licencia bajo cualesquiera patentes o derechos de patentes de Matrox Graphics Inc.

## **Matrox Graphics Inc.**

1055 St-Regis Blvd.  
Dorval, Quebec  
Canada H9P 2T4  
Tel: (514) 822-6320  
Fax: (514) 822-6363  
Fax-back service: (514) 685-0174  
BBS: (514) 685-6008  
Technical support: (514) 685-0270  
In Quebec, call: (514) 822-6330  
E-mail: [graphics.techsupport@matrox.com](mailto:graphics.techsupport@matrox.com)  
Web site: [www.matrox.com/mga](http://www.matrox.com/mga)

## **France**

Matrox France SARL  
2, rue de la Couture, Silic 225  
94528 Rungis Cedex, France  
Tél: 01 45.60.62.00  
Fax: 01 45.60.62.05  
Assistance technique: 01 45.60.62.75  
Courrier électronique: [tech\\_support\\_graphic@matrox.fr](mailto:tech_support_graphic@matrox.fr)  
Site Web: [www.matrox.com/mga/francais](http://www.matrox.com/mga/francais)

## **United Kingdom**

Matrox (UK) Limited  
Sefton Park  
Stoke Poges  
Buckinghamshire  
England SL2 4JS  
Tel: 01753 66 55 00  
Fax: 01753 66 55 99  
Sales: 01753 66 55 44  
Technical support: 01753 66 55 22  
E-mail: [graphic.tech.uk@matrox.com](mailto:graphic.tech.uk@matrox.com)

## **Deutschland**

Matrox Electronic Systems GmbH  
Inselkammerstraße 8  
D-82008 Unterhaching bei  
München, Deutschland  
Tel: 089 614 474-0  
Fax: 089 614 9743  
BBS: 089 614 00 91  
BBS (ISDN): 089 614 474-91  
Vertriebs Infoline: 089 614 474-44  
E-mail: [106335.760@compuserve.com](mailto:106335.760@compuserve.com)  
Technische Unterstützung: 089 614 474-33  
E-mail: [106332.1007@compuserve.com](mailto:106332.1007@compuserve.com)  
Web-Site: [www.matrox.com/mga/deutsch](http://www.matrox.com/mga/deutsch)

## **Italia**

Agenzia Italiana di Matrox Graphics Inc.  
3G electronics  
via Boncompagni 3B  
20139 Milano, Italia  
Fax: 02-5253045  
BBS: 02-5253044  
Informazioni commerciali: 02-5253095  
Posta elettronica: [commerciale.3g@treg.it](mailto:commerciale.3g@treg.it)  
Assistenza tecnica: 02-5253099  
Posta elettronica: [supporto.3g@treg.it](mailto:supporto.3g@treg.it)  
Sito Web: [www.matrox.com/mga/italia](http://www.matrox.com/mga/italia)

## **Hong Kong**

Matrox Electronics Systems Ltd.  
Rm. 1901, 19/F, Workington Tower  
78 Bonham Strand E.  
Sheung Wan, Hong Kong  
Tel: 852-2877-5387  
Fax: 852-2537-9530  
E-mail: [100452.2432@compuserve.com](mailto:100452.2432@compuserve.com)

# **matrox**